SEQUENCE LISTING

<110> O'Brien, Timothy

 $<\!120\!>\,$ Repeat Sequences of the CA125 Gene and Their Use for Diagnostic and Therapeutic Interventions

<130> 40715-258841

<150> US 60/284,175

<151> 2001-04-17

<160> 306

<170> PatentIn version 3.0

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Gln His Pro Gly Ser Arg Lys Phe Lys Thr Thr Glu Gly 1 5

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ggt ctg ctc agg cct gtg ttc aag aac acc agt gtt ggc cct ctg tac
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Gly Leu Leu Arg Pro Val Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr
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                               25
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tct ggc t Ser Gly (igc aga Cys Arg 85	ctg acc Leu Thi	ttg Leu	ctc Leu 40	agg Arg	ccc Pro	aag Lys	aag Lys	gat Asp 45	ggg Gly	gca Ala	gcc Ala	144
acc aaa q Thr Lys V 50													192
gga ctg c Gly Leu <i>F</i> 65													240
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_		J				10					10		
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Ser Gly C	Cys Arg	Leu Thr	Leu	Leu 40	Arg	Pro	Lys	Lys	Asp 45	Gly	Ala	Ala	
(7) T 13	r - 7 - 7 -	73 77			_	_	_		_	_			
Thr Lys V 50	al Asp	Ala ile	55	Tnr	Tyr	Arg	Pro	Asp 60	Pro	Lys	Ser	Pro	
Gly Leu A	sp Arg	Glu Gln 70	Leu	Tyr	Trp	Glu	Leu 75	Ser	Gln	Gly	Asp	Ala 80	
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Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu 20 25 30

Lys Asp Gly Thr Ala Thr Gly Val Asp Ala Ile Cys Thr His His Pro 35 40 45

Asp Pro Lys Ser Pro Arg Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu 50 55 60

Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ala Leu Asp 70 75 80

Asn Asp Ser Leu Phe Val Asn Gly Phe Thr His Arg Ser Ser Val Ser 85 90 95

Thr Thr Ser Thr Pro Gly Thr Pro Thr Val Tyr Leu Gly Ala Ser Lys
100 105 110

Thr Pro Ala Ser Ile Phe Gly Pro Ser Ala Ala Ser Pro Leu Leu Ile 115 120 125

Pro Phe Thr 130

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<212> PRT

<213> Homo sapiens

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1 10 15

Val Ser Ser Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu 20 25 30

Lys Asp Gly Ala Ala Thr Arg Ala Asp Ala Val Cys Thr His Arg Pro

		35					40					45			
Asp	Pro	Lys	Ser	Pro	Gly	Leu 55	Asp	Arg	Glu	Arg	Leu 60	Tyr	Trp	Lys	Lei
Ser 65	Gln	Leu	Thr	His	Gly 70	Ile	Thr	Glu	Leu	Gly 75	Pro	Tyr	Thr	Leu	Asp 80
Arg	His	Ser	Leu	Tyr 85	Val	Asn	Gly	Phe	Thr 90	His	Gln	Ser	Ser	Met 95	Thi
Thr	Thr	Arg	Thr 100	Pro	Asp	Thr	Ser	Thr 105	Met	His	Leu	Ala	Thr 110	Ser	Arq
Thr	Pro	Ala 115	Ser	Leu	Ser	Gly	Pro 120	Thr	Thr	Ala	Ser	Pro 125	Leu	Leu	Ile
Pro	Phe 130														
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Glu 1	Arg	Val	Leu	Gln 5	Gly	Leu	Leu	Gly	Pro 10	Ile	Phe	Lys	Asn	Thr 15	Ser
Val	Gly	Pro	Leu 20	Tyr	Ser	Gly	Cys	Arg 25	Leu	Thr	Ser	Leu	Arg 30	Ser	Glu
Lys	Asp	Gly 35	Ala	Ala	Thr	Gly	Val 40	Asp	Ala	Ile	Cys	Ile 45	His	Arg	Leu
Asp	Pro 50	Lys	Ser	Pro	Gly	Leu 55	Asn	Arg	Glu	Gln	Leu 60	Tyr	Trp	Glu	Leu
Ser 65	Lys	Leu	Thr	Asn	Asp 70	Ile	Glu	Glu	Leu	Gly 75	Pro	Tyr	Thr	Leu	Asp 80
Arg	Asn	Ser	Leu	Tyr 85	Val	Asn	Gly	Phe	Thr 90	His	Gln	Ser	Ser	Val 95	Ser
Thr	Thr	Ser	Thr 100	Pro	Gly	Thr	Ser	Thr 105	Val	Asp	Leu	Arg	Thr 110	Ser	Gly
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Leu	Ile 130	Pro	Phe												

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<211> 130

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<213> Homo sapiens

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Glu Arg Val Leu Gl
n Gly Leu Leu Gly Pro Met Phe Lys As
n Thr Ser 1 $$ 5 $$ 10 $$ 15

Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu 20 25 30

Lys Asn Gly Ala Ala Thr Gly Met Asp Ala Ile Cys Ser His Arg Leu 35 40 45

Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu 50 55 60

Ser Gln Leu Thr His Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp 65 70 75 80

Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Ala 85 90 95

Pro Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly 100 105 110

Thr Pro Ser Ser Leu Pro Ser Pro Thr Thr Ala Val Pro Leu Leu Ile 115 120 125

Pro Phe 130

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<213> Homo sapiens

<400> 15

Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Leu Phe Lys Asn Ser Ser 1 5 10 15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Ile Ser Leu Arg Ser Glu
20 25 30

Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His His Leu 35 40 45

Asn Pro Gln Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Gln Leu 50 55 60

Ser Gln Met Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp 75 80

Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Gly Leu $85 \hspace{1cm} 90 \hspace{1cm} 95$

Thr Thr Ser Thr Pro Trp Thr Ser Thr Val Asp Leu Gly Thr Ser Gly
100 105 110

Thr Pro Ser Pro Val Pro Ser Pro Thr Thr Ala Gly Pro Phe Leu Ile 115 120 125

Pro Phe 130

<210> 16

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<212> PRT

<213> Homo sapiens

<400> 16

Glu Arg Val Leu Gln Gly Leu Leu Arg Pro Leu Phe Lys Ser Thr Ser $1 \hspace{1.5cm} 5 \hspace{1.5cm} 10 \hspace{1.5cm} 15$

Ala Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu 20 25 30

Lys His Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr Leu Arg Leu 35 40 45

Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu 50 55 60

Ser Gln Leu Thr Asn Ser Val Thr Glu Leu Gly Pro Tyr Thr Leu Asp 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Pro 85 90 95

Thr Thr Ser Ile Pro Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly 100 105 110

Thr Pro Ala Ser Leu Pro Gly His Thr Ala Pro Gly Pro Leu Leu Ile 115 120 125

Pro Phe 130 <210> 17

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<212> PRT

<213> Homo sapiens

<400> 17

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser $1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15$

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu 20 25 30

Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu 35 40 45

Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu 50 55 60

Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Thr Leu Asp 65 70 75 80

Thr Thr Ser Ile Pro Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly 100 105 110

Thr Pro Ala Ser Leu Pro Gly His Ile Val Pro Gly Pro Leu Leu Ile 115 120 125

Pro Phe 130

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<211> 131

<212> PRT

<213> Homo sapiens

<400> 18

Glu Arg Val Leu Gln Gly Leu Leu Thr Pro Leu Phe Lys Asn Thr Ser $1 \hspace{1.5cm} 5 \hspace{1.5cm} 10 \hspace{1.5cm} 15$

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu

Lys Gln Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Val 35 40 45

Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu 50 55 60

Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp
65 70 75 80

Arg Asp Ser Leu Tyr Val Asp Gly Phe Asn Pro Trp Ser Ser Val Pro 85 90 95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala Thr Ser Gly
100 105 110

Thr Pro Ser Pro Leu Pro Gly His Thr Ala Pro Val Pro Leu Leu Ile 115 120 125

Pro Phe Thr 130

<210> 19

<211> 131

<212> PRT

<213> Homo sapiens

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Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser 1 5 10 15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu 20 25 30

Lys His Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu $35 \hspace{1.5cm} 40 \hspace{1.5cm} 45$

Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu 50 55 60

Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp 70 75 80

Arg Gly Ser Leu Tyr Val Asn Gly Phe Thr His Arg Asn Phe Val Pro 85 90 95

Ile Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Gly Thr Ser Glu 100 105 110

Thr Pro Ser Ser Leu Pro Arg Pro Ile Val Pro Gly Pro Leu Leu Val 115 120 125

Pro Phe Thr 130

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<210> 20
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<211> 130

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<213> Homo sapiens

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Glu Arg Val Leu Gln Gly Leu Leu Ser Pro Ile Phe Lys Asn Ser Ser $1 \hspace{1.5cm} 5 \hspace{1.5cm} 10 \hspace{1.5cm} 15$

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu 20 25 30

Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro $35 \hspace{1cm} 40 \hspace{1cm} 45$

Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu 50 55 60

Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp 65 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro85 90 95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly 100 105 110

Thr Pro Ser Ser Phe Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile 115 120 125

Pro Phe 130

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<212> PRT

<213> Homo sapiens

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Glu Arg Val Leu Gln Gly Leu Leu Arg Pro Leu Phe Lys Asn Thr Ser $1 \hspace{1.5cm} 5 \hspace{1.5cm} 10 \hspace{1.5cm} 15$

Ile Gly Pro Leu Tyr Ser Ser Cys Arg Leu Thr Leu Leu Arg Pro Glu

Lys Asp Lys Ala Ala Thr Arg Val Asp Ala Ile Cys Thr His His Pro
35 40 45

Asp Pro Gln Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu 50 55 60

Ser Gln Leu Thr His Gly Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp
65 70 75 80

Arg Asp Ser Leu Tyr Val Asp Gly Phe Thr His Trp Ser Pro Ile Pro 85 90 95

Thr Thr Ser Thr Pro Gly Thr Ser Ile Val Asn Leu Gly Thr Ser Gly 100 105 110

Ile Pro Pro Ser Leu Pro Glu Thr Thr Ala Thr Gly Pro Leu Leu Ile 115 120 125

Pro Phe Thr 130

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<213> Homo sapiens

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Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Arg Asn Ser Ser 1 5 10 15

Leu Glu Tyr Leu Tyr Ser Gly Cys Arg Leu Ala Ser Leu Arg Pro Glu 20 25 30

Lys Asp Ser Ser Ala Met Ala Val Asp Ala Ile Cys Thr His Arg Pro 35 40 45

Asp Pro Glu Asp Leu Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu 50 55 60

Ser Asn Leu Thr Asn Gly Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp 70 75 80

Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Met Pro 85 90 95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Val Gly Thr Ser Gly 100 105 110

Thr Pro Ser Ser Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Met 115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp 130 135 140

Met Arg Arg Thr Gly Ser Arg Lys Phe Asn Thr Met Glu Arg Val Leu

145	150	155	160
Gln Gly Leu Leu Ser 165	Pro Ile Phe Ly	ys Asn Ser Ser Val 170	Gly Pro Leu 175
Tyr Ser Gly Cys Arg 180		eu Arg Pro Glu Lys 85	Asp Gly Ala 190
Ala Thr Gly Met Asp 195	Ala Val Cys Le	eu Tyr His Pro Asn 205	Pro Lys Arg
Pro Gly Leu Asp Arg 210	Glu Gln Leu Ty 215	yr Trp Glu Leu Ser 220	Gln Leu Thr
His Asn Ile Thr Glu 225	Leu Gly Pro Ty 230	yr Ser Leu Asp Arg 235	Asp Ser Leu 240
Tyr Val Asn Gly Phe 245	Thr His Gln As	sn Ser Val Pro Thr 250	Thr Ser Thr 255
Pro Gly Thr Ser Thr 260		la Thr Thr Gly Thr 65	Pro Ser Ser 270
Phe Pro Gly His Thr 275	Glu Pro Gly Pa 280	ro Leu	
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<pre><400> 23 Glu Arg Val Leu Gln 1</pre>	Ser Gly Cys Ar 25 Met Ala Val As 40 Gly Leu Asp Ar 55 Gly Ile Gln Gl 70	10 rg Leu Ala Ser Leu 5 sp Ala Ile Cys Thr 45 rg Glu Arg Leu Tyr 60 lu Leu Gly Pro Tyr 75	Arg Pro Glu 30 His Arg Pro Trp Glu Leu Thr Leu Asp 80

Thr Pro Ser Pro Val Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Ile 115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn 130 135 140

Met Gly His Pro Gly Ser Arg Lys Phe Asn Ile Met Glu Arg Val Leu 145 150 155 160

Gln Gly Leu Leu Met Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu 165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala 180 185 190

Ala Thr Arg Val Asp Ala Val Cys Thr Gln Arg Pro Asp Pro Lys Ser 195 200 205

Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Lys Leu Ser Gln Leu Thr 210 215 220

His Gly Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg His Ser Leu 225 230 235 240

Tyr Val Asn Gly Leu Thr His Gln Ser Ser Met Thr Thr Thr Arg Thr 245 250 255

Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser Arg Thr Pro Ala Ser 260 265 270

Leu Ser Gly Pro Thr Thr Ala Ser Pro Leu Leu Ile Pro Phe 275 280 285

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<213> Homo sapiens

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Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser 1 10 15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu 20 25 30

Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu $35 \hspace{1.5cm} 40 \hspace{1.5cm} 45$

Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu 50 55 60

Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp
65 70 75 80

Arg Gly Ser Leu Tyr Val Asn Gly Phe Thr His Arg Thr Ser Val Pro \$85\$ 90 95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly 100 105 110

Thr Pro Phe Ser Leu Pro Ser Pro Ala Thr Ala Gly Pro Leu Leu Val 115 120 125

Leu Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Lys Tyr Glu Glu Asp 130 135 140

Met His Arg Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu 145 150 155 160

Gln Thr Leu Leu Gly Pro Met Phe Lys Asn Thr Ser Val Gly Leu Leu 165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Ser Glu Lys Asp Gly Ala 180 185 190

Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser 195 200 205

Pro Gly Val Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr 210 215 220

Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu 225 230 235 240

Tyr Val Asn Gly Phe Thr His Trp Ile Pro 245 250

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<213> Homo sapiens

<400> 25

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Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu 20 25 30

Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu 35 40 45

Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu 50 55 60

Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp

65	70	75	80
Arg Gly Ser Leu Tyr 85	Val Asn Gly Phe Thr 90	_	Val Pro 95
Ile Thr Ser Thr Pro	Gly Thr Ser Thr Val	l His Leu Gly Thr S 110	Ser Glu
Thr Pro Ser Ser Leu 115	Pro Arg Pro Ile Val	l Pro Gly Pro Leu L 125	eu Ile
Pro Phe Thr Ile Asn 130	Phe Thr Ile Thr Asr 135	n Leu Arg Tyr Glu G 140	Slu Asn
Met His His Pro Gly 145	Ser Arg Lys Phe Asr 150	n Ile Met Glu Arg V 155	al Leu 160
Gln Gly Leu Leu Gly 165	Pro Leu Phe Lys Asr 170		ro Leu 75
Tyr Ser Gly Cys Arg 180	Leu Ile Ser Leu Arq 185	g Ser Glu Lys Asp G 190	Sly Ala
Ala Thr Gly Val Asp 195	Ala Ile Cys Thr His	s His Leu Asn Pro G 205	In Ser
Pro Gly Leu Asp Arg 210	Glu Gln Leu Tyr Trp 215	o Gln Leu Ser Gln M 220	let Thr
Asn Gly Ile Lys Glu 225	Leu Gly Pro Tyr Thr 230	r Leu Asp Arg Asn S 235	er Leu 240
Tyr Val Asn Gly Phe 245	Thr His Arg Ser Ser 250		er Thr 55
Pro Trp Thr Ser Thr 260	Val Asp Leu Gly Thr 265	r Ser Gly Thr Pro Se 270	er Pro
Val Pro Ser Pro Thr 275	Thr Ala Gly Pro Let 280	ı Leu Ile Pro Phe 285	
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Val Gly Pro Leu Tyr 20	Ser Gly Cys Arg Leu 25	Thr Leu Leu Arg Pi 30	ro Glu

Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu $35 \hspace{1.5cm} 40 \hspace{1.5cm} 45$

Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu 50 55 60

Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp 70 75 80

Arg Gly Ser Leu Tyr Val Asn Gly Phe Ser Arg Gln Ser Ser Met Thr 85 90 95

Thr Thr Arg Thr Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser Arg 100 105 110

Thr Pro Ala Ser Leu Ser Gly Pro Thr Thr Ala Ser Pro Leu Leu Ile 115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn 130 135 140

Met Gly His Pro Gly Ser Arg Lys Phe Asn Ile Met Glu Arg Val Leu 145 150 155 160

Gln Gly Leu Leu Asn Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu 165 170 175

Tyr Ser Gly Cys Arg Leu Thr Ser Leu Lys Pro Glu Lys Asp Gly Ala 180 185 190

Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg 195 200 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr 210 215 220

His Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu 225 230 235 240

Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Ala Pro Thr Ser Thr 245 250 255

Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Ser 260 265 270

Leu Pro Ser Pro Thr Thr Ala Val Pro Leu Leu Ile Pro Phe 275 280 285

<210> 27

<211> 286

<212> PRT

<213> Homo sapiens

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser 1 5 10 15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu 20 25 30

Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu $35 \hspace{1.5cm} 40 \hspace{1.5cm} 45$

Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu 50 55 60

Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp 65 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Pro 85 90 95

Thr Thr Ser Ile Pro Gly Thr Ser Ala Val His Leu Glu Thr Phe Gly 100 105 110

Thr Pro Ala Ser Leu His Gly His Thr Ala Pro Gly Pro Val Leu Val 115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp 130 135 140

Met Arg His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu 145 150 155 160

Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu 165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Arg Gly Ala 180 185 190

Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu Asp Pro Leu Asn 195 200 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr 210 215 220

Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp Arg Gly Ser Leu 225 230 235 240

Tyr Val Asn Gly Phe Thr His Arg Asn Phe Val Pro Ile Thr Ser Thr 245 250 255

Pro Gly Thr Ser Thr Val His Leu Gly Thr Ser Glu Thr Pro Ser Ser 260 265 270

Leu Pro Arg Pro Ile Val Pro Gly Pro Leu Leu Ile Pro Phe 275 280 285

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<400> 28

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser 1 5 10 15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu 20 25 30

Lys His Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr Leu Arg Leu $35 \hspace{1.5cm} 40 \hspace{1.5cm} 45$

Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu 50 55 60

Ser Gln Leu Thr Asn Ser Val Thr Glu Leu Gly Pro Tyr Thr Leu Asp 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Pro 85 90 95

Thr Thr Ser Ile Pro Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly
100 105 110

Thr Pro Ala Ser Leu Pro Gly His Thr Ala Pro Gly Pro Leu Leu Val 115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp 130 135 140

Met Arg His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu 145 150 155 160

Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu 165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Arg Gly Ala 180 185 190

Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu Asp Pro Leu Asn 195 200 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr 210 215 220

Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp Arg Gly Ser Leu 225 230 235 240

Tyr Val Asn Gly Phe Thr His Arg Asn Phe Val Pro Ile Thr Ser Thr \$245\$ \$250\$ \$255\$

Pro Gly Thr Ser Thr Val His Leu Gly Thr Ser Glu Thr Pro Ser Ser 260 265 270

Leu Pro Arg Pro Ile Val Pro Gly Pro Leu Leu Ile Pro Phe 275 280 285

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<213> Homo sapiens

<400> 29

Glu Arg Val Leu Gln Gly Leu Leu Thr Pro Leu Phe Lys Asn Thr Ser $1 \hspace{1.5cm} 5 \hspace{1.5cm} 10 \hspace{1.5cm} 15$

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu
20 25 30

Lys Gln Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Val 35 40 45

Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu 50 55 60

Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp 65 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Trp Ser Ser Val Pro 85 90 95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala Thr Ser Gly 100 105 110

Thr Pro Ser Ser Leu Pro Gly His Thr Ala Pro Val Pro Leu Leu Ile 115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu His Tyr Glu Glu Asn 130 135 140

Met Gln His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu 145 150 155 160

Gln Gly Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu 165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys His Gly Ala 180 185 190

Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser 195 200 205

Pro Gly Val Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr 210 215 220

Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu 225 230 235 240

Tyr Val Asn Gly Phe Thr His Trp Ile Pro Val Pro Thr Ser Ser Thr 245 250 255

Pro Gly Thr Ser Thr Val Asp Leu Gly Ser Gly Thr Pro Ser Ser Leu 260 265 270

Pro Ser Pro Thr Thr Ala Gly Pro Leu 275 280

<210> 30

<211> 217

<212> PRT

<213> Homo sapiens

<400> 30

Glu Arg Val Leu Gln Gly Leu Leu Arg Pro Leu Phe Lys Asn Thr Ser 1 5 10 15

Ile Gly Pro Leu Tyr Ser Ser Cys Arg Leu Thr Leu Leu Arg Pro Glu 20 25 30

Lys Asp Lys Ala Ala Thr Arg Val Asp Ala Ile Cys Thr His His Pro $35 \hspace{1cm} 40 \hspace{1cm} 45$

Asp Pro Gln Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu 50 55 60

Ser Gln Leu Thr His Gly Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp 70 75 80

Arg Asp Ser Leu Tyr Val Asp Gly Phe Thr His Trp Ser Pro Ile Pro 85 90 95

Thr Thr Ser Thr Pro Gly Thr Ser Ile Val Asn Leu Gly Thr Ser Gly
100 105 110

Ile Pro Pro Ser Leu Pro Glu Thr Thr Ala Thr Gly Pro Leu Leu Ile 115 120 125

Pro Phe Thr Pro Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp 130 135 140

Met Arg Arg Thr Gly Ser Arg Lys Phe Asn Thr Met Glu Arg Val Leu 145 150 155 160

Gln Gly Leu Leu Ser Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu 165 170 175

Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala 180 185 190

Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg

195 200 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr 210 215

<210> 31

<211> 286

<212> PRT

<213> Homo sapiens

<400> 31

Glu Arg Val Leu Gln Gly Leu Leu Arg Pro Val Phe Lys Asn Thr Ser $1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15$

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys
20 25 30

Lys Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr Arg Pro $35 \hspace{1cm} 40 \hspace{1cm} 45$

Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu 50 55 60

Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp
65 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr Gln Arg Ser Ser Val Pro 85 90 95

Thr Thr Ser Ile Pro Gly Thr Pro Thr Val Asp Leu Gly Thr Ser Gly 100 105 110

Thr Pro Val Ser Lys Pro Gly Pro Ser Ala Ala Ser Pro Leu Leu Val 115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp 130 135 140

Met His Arg Pro Gly Ser Arg Lys Phe Asn Ala Thr Glu Arg Val Leu 145 150 155 160

Gln Gly Leu Leu Ser Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu 165 170 175

Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala 180 185 190

Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg 195 200 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr 210 215 220

His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp Arg Asp Ser Leu 225 230 235 240

Tyr Val Asn Gly Phe Thr His Gln Ser Ser Met Thr Thr Thr Arg Thr 245 250 255

Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser Arg Thr Pro Ala Ser 260 265 270

Leu Ser Gly Pro Thr Thr Ala Ser Pro Leu Leu Ile Pro Phe 275 280 285

<210> 32

<211> 288

<212> PRT

<213> Homo sapiens

<400> 32

Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Met Phe Lys Asn Thr Ser 1 5 10 15

Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys 20 25 30

Lys Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr Arg Pro 35 40 45

Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu 50 55 60

Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr Gln Arg Ser Ser Val Pro 85 90 95

Thr Thr Ser Ile Pro Gly Thr Pro Thr Val Asp Leu Gly Thr Ser Gly
100 105 110

Thr Pro Val Ser Lys Pro Gly Pro Ser Ala Ala Ser Pro Leu Leu Ile 115 120 125

Pro Phe Thr Ile Asn Phe Thr Ile Thr Asn Leu Arg Tyr Glu Glu Asn 130 135 140

Met Gly His Pro Gly Ser Arg Lys Phe Asn Ile Met Glu Arg Val Leu 145 150 155 160

Gln Gly Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu
165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala 180 185 190 Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser 195 200 205

Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr 210 215 220

Asn Asp Ile Glu Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu 225 230 235 240

Tyr Val Asn Gly Phe Thr His Gln Ser Ser Val Ser Thr Thr Ser Thr 245 250 255

Pro Gly Thr Ser Thr Val Asp Leu Arg Thr Ser Gly Thr Pro Ser Ser 260 265 270

Leu Ser Ser Pro Thr Ile Met Ala Ala Gly Pro Leu Leu Ile Pro Phe 275 280 285

<210> 33

<211> 284

<212> PRT

<213> Homo sapiens

<400> 33

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser 1 5 10 15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu 20 25 30

Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro 35 40 45

Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Cys Glu Leu 50 55 60

Ser Gln Leu Thr His Asp Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp 65 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro
85 90 95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly
100 105 110

Thr Pro Ser Ser Phe Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile 115 120 125

Pro Phe Thr Phe Asn Phe Thr Ile Thr Asn Leu His Tyr Glu Glu Asn 130 135 140

Met Gln His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu

145 150 155 160 Gln Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu 165 170 Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys His Glu Ala 180 185 Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser Ile His Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu 230 235 Tyr Val Asn Gly Phe Asn Pro Arg Ser Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Ser 265 Leu Pro Gly His Thr Ala Pro Val Pro Leu Leu Ile 280 <210> 34 <211> 288 <212> <213> Homo sapiens <400> 34 Glu Arg Val Leu Gln Gly Leu Leu Ser Pro Ile Ser Lys Asn Ser Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu 55 Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro 85

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly

105

100

Thr Pro Ser Ser Phe Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile 115 120 125

Pro Phe Thr Val Asn Phe Thr Ile Thr Asn Leu Arg Tyr Glu Glu Asn 130 135 140

Met His His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu 145 150 155 160

Gln Gly Leu Leu Arg Pro Val Phe Lys Asn Thr Ser Val Gly Pro Leu 165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala 180 185 190

Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr Arg Pro Asp Pro Lys Ser 195 200 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr 210 215 220

Asn Asp Ile Glu Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu 225 230 235 240

Tyr Val Asn Gly Phe Thr His Gln Ser Ser Val Ser Thr Thr Ser Thr 245 250 255

Pro Gly Thr Ser Thr Val Asp Leu Arg Thr Ser Gly Thr Pro Ser Ser 260 265 270

Leu Ser Ser Pro Thr Ile Met Ala Ala Gly Pro Leu Leu Ile Pro Phe 275 280 285

<210> 35

<211> 274

<212> PRT

<213> Homo sapiens

<400> 35

Glu Arg Val Leu Gln Gly Leu Leu Ser Pro Ile Phe Lys Asn Ser Ser $1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15$

Val Gly Ser Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu 20 25 30

Lys Asp Gly Ala Ala Thr Arg Val Asp Ala Val Cys Thr His Arg Pro $35 \hspace{1cm} 40 \hspace{1cm} 45$

Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Lys Leu 50 60

Ser Gln Leu Thr His Gly Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp
65 70 75 80

Arg His Ser Leu Tyr Val Asn Gly Phe Thr His Gln Ser Ser Met Thr 85 90 95

Thr Thr Arg Thr Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser Arg
100 105 110

Thr Pro Ala Ser Leu Ser Gly Pro Thr Thr Ala Ser Pro Leu Leu Val 115 120 125

Leu Phe Thr Ile Asn Phe Thr Ile Thr Asn Gln Arg Tyr Glu Glu Asn 130 135 140

Met His His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu 145 150 155 160

Gln Gly Leu Leu Arg Pro Val Phe Lys Asn Thr Ser Val Gly Pro Leu 165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala 180 185 190

Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr Arg Pro Asp Pro Lys Ser 195 200 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr 210 215 220

His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Gln Asp Arg Asp Ser Leu 225 230 235 240

Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Pro Thr Thr Ser Ile 245 250 255

Pro Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly Thr Pro Ala Ser 260 265 270

Leu Pro

<210> 36

<211> 386

<212> PRT

<213> Homo sapiens

<400> 36

Glu Arg Val Leu Gly Leu Leu Gly Pro Met Phe Lys Asn Thr Ser

Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu 20 25 30

Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu

		35					40					45			
Asp	Pro 50	Leu	Asn	Pro	Gly	Leu 55	Asp	Arg	Glu	Gln	Leu 60	Tyr	Trp	Glu	Leu
Ser 65	Lys	Leu	Thr	Arg	Gly 70	Ile	Ile	Glu	Leu	Gly 75	Pro	Tyr	Leu	Leu	Asp 80
Arg	Gly	Ser	Leu	Tyr 85	Val	Asn	Gly	Phe	Thr 90	His	Arg	Asn	Phe	Val 95	Pro
Ile	Thr	Ser	Thr 100	Pro	Gly	Thr	Ser	Thr 105	Val	His	Leu	Gly	Thr 110	Ser	Glu
Thr	Pro	Ser 115	Ser	Leu	Pro	Arg	Pro 120	Ile	Val	Pro	Gly	Pro 125	Leu	Leu	Val
Pro	Phe 130	Thr	Leu	Asn	Phe	Thr 135	Ile	Thr	Asn	Leu	Gln 140	Tyr	Glu	Glu	Ala
Met 145	Arg	His	Pro	Gly	Ser 150	Arg	Lys	Phe	Asn	Thr 155	Thr	Glu	Arg	Val	Leu 160
Gln	Gly	Leu	Leu	Arg 165	Pro	Leu	Phe	Lys	Asn 170	Thr	Ser	Val	Ser	Ser 175	Leu
Tyr	Ser	Gly	Cys 180	Arg	Leu	Thr	Leu	Leu 185	Arg	Pro	Glu	Lys	Asp 190	Gly	Ala
Ala	Thr	Arg 195	Val	Asp	Ala	Ala	Cys 200	Thr	Tyr	Arg	Pro	Asp 205	Pro	Lys	Ser
Pro	Gly 210	Leu	Asp	Arg	Glu	Gln 215	Leu	Tyr	Trp	Glu	Leu 220	Ser	Gln	Leu	Thr
His 225	Ser	Ile	Thr	Glu	Leu 230	Gly	Pro	Tyr	Thr	Leu 235	Asp	Arg	Val	Ser	Leu 240
Tyr	Val	Asn	Gly	Phe 245	Asn	Pro	Arg	Ser	Ser 250	Val	Pro	Thr	Thr	Ser 255	Thr
Pro	Gly	Thr	Ser 260	Thr	Val	His		Ala 265		Ser	Gly	Thr	Pro 270	Ser	Ser
Leu	Pro	Gly 275	His	Thr	Ala	Pro	Val 280	Pro	Leu	Leu	Ile	Pro 285	Phe	Thr	Leu
Asn	Phe 290	Thr	Ile	Thr	Asn	Leu 295	Gln	Tyr	Glu	Glu	Asp 300	Met	Arg	His	Pro
Gly 305	Ser	Arg	Lys	Phe	Asn 310	Thr	Met	Glu	Arg	Val 315	Leu	Gln	Gly	Leu	Leu 320
Arg	Pro	Leu	Phe	Lys 325	Asn	Thr	Ser	Ile	Gly 330	Pro	Leu	Tyr	Ser	Ser 335	Cys
Arg	Leu	Thr	Leu 340	Leu	Arg	Pro	Glu	Lys 345	Asp	Lys	Ala	Ala	Thr 350	Arg	Val

Asp Ala Ile Cys Thr His His Pro Asp Pro Gln Ser Pro Gly Leu Asn 355 360 365

Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His Gly Ile Thr 370 375 380

Glu Leu 385

<210> 37

<211> 438

<212> PRT

<213> Homo sapiens

<400> 37

Glu Arg Val Leu His Gly Leu Leu Thr Pro Leu Phe Lys Asn Thr Arg
1 5 10 15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu 20 25 30

Lys Gln Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Val 35 40 45

Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu 50 55 60

Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Trp Ser Ser Val Pro 85 90 95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala Thr Ser Gly 100 105 110

Thr Pro Ser Ser Leu Pro Gly His Thr Ala Pro Val Pro Leu Leu Ile 115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu His Tyr Glu Glu Asn 130 135 140

Met Gln His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu 145 150 155 160

Gln Gly Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu
165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Phe Lys Pro Glu Lys His Glu Ala 180 185 190

Ala Thr Gly Val Asp Ala Ile Cys Thr Leu Arg Leu Asp Pro Thr Gly 195 200 205

Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr 210 215 220

Asn Ser Val Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu 225 230 235 240

Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Pro Thr Thr Ser Ile
245 250 255

Pro Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly Thr Pro Ala Ser 260 265 270

Leu Pro Gly His Thr Ala Pro Gly Pro Leu Leu Ile Pro Phe Thr Leu 275 280 285

Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr 290 295 300

Gly Ser Arg Lys Phe Asn Thr Met Glu Arg Val Leu Gln Gly Leu Leu 305 310 315 320

Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys 325 330 335

Arg Leu Thr Leu Leu Arg Pro Glu Lys Arg Gly Ala Ala Thr Gly Val\$340\$ \$345\$ 350

Asp Thr Ile Cys Thr His Arg Leu Asp Pro Leu Asn Pro Gly Leu Asp 355 360 365

Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr Arg Gly Ile Ile 370 375 380

Glu Leu Gly Pro Tyr Leu Leu Asp Arg Gly Ser Leu Tyr Val Asn Gly 385 390 395 400

Phe Thr His Arg Asn Phe Val Pro Ile Thr Ser Thr Pro Gly Thr Ser 405 410 415

Thr Val His Leu Gly Thr Ser Glu Ile His Pro Ser Leu Pro Arg Pro 420 425 430

Ile Val Pro Gly Pro Leu 435

<210> 38

<211> 420

<212> PRT

<213> Homo sapiens

<400> 38

Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys

1				5					10					15	
Asp	Gly	Ala	Ala 20	Thr	Gly	Met	Asp	Ala 25	Val	Cys	Leu	Tyr	His 30	Pro	Asn
Pro	Lys	Arg 35	Pro	Gly	Leu	Asp	Arg 40	Glu	Gln	Leu	Tyr	Trp 45	Glu	Leu	Ser
Gln	Leu 50	Thr	His	Asn	Ile	Thr 55	Glu	Leu	Gly	Pro	Tyr 60	Ser	Leu	Asp	Arg
Asp 65	Ser	Leu	Tyr	Val	Asn 70	Gly	Phe	Thr	His	Gln 75	Asn	Ser	Val	Pro	Thr 80
Thr	Ser	Thr	Pro	Gly 85	Thr	Ser	Thr	Val	Tyr 90	Trp	Ala	Thr	Thr	Gly 95	Thr
Pro	Ser	Ser	Phe 100	Pro	Gly	His	Thr	Glu 105	Pro	Gly	Pro	Leu	Leu 110	Ile	Pro
Phe	Thr	Leu 115	Asn	Phe	Thr	Ile	Thr 120	Asn	Leu	Gln	Tyr	Glu 125	Glu	Asn	Met
Gly	His 130	Pro	Gly	Ser	Arg	Lys 135	Phe	Asn	Ile	Thr	Glu 140	Ser	Val	Leu	Gln
Gly 145	Leu	Leu	Thr	Pro	Leu 150	Phe	Lys	Asn	Ser	Ser 155	Val	Gly	Pro	Leu	Tyr 160
Ser	Gly	Cys	Arg	Leu 165	Ile	Ser	Leu	Arg	Ser 170	Glu	Lys	Asp	Gly	Ala 175	Ala
Thr	Gly	Val	Asp 180	Ala	Ile	Cys	Thr	His 185	His	Leu	Asn	Pro	Gln 190	Ser	Pro
Gly	Leu	Asp 195	Arg	Glu	Gln	Leu	Tyr 200	Trp	Gln	Leu	Ser	Gln 205	Met	Thr	Asn
Gly	Ile 210	Lys	Glu	Leu	Gly	Pro 215	Tyr	Thr	Leu	Asp	Arg 220	Asp	Ser	Leu	Tyr
Val 225	Asn	Gly	Phe	Thr	His 230	Arg	Ser	Leu	Gly	Leu 235	Thr	Thr	Ser	Thr	Pro 240
Trp	Thr	Ser	Thr	Val 245	Asp	Leu	Gly	Thr	Ser 250	Gly	Thr	Pro	Ser	Pro 255	Val
Pro	Ser	Pro	Thr 260	Thr	Ala	Gly	Pro	Leu 265	Leu	Ile	Pro	Phe	Thr 270	Leu	Asn
Phe	Thr	Ile 275	Thr	Asn	Leu	Gln	Tyr 280	Glu	Glu	Asn	Met	Gly 285	His	Pro	Gly
Ser	Arg 290	Lys	Phe	Asn	Ile	Met 295	Glu	Arg	Val	Leu	Gln 300	Gly	Leu	Leu	Arg
Pro 305	Val	Phe	Lys	Asn	Thr 310	Ser	Val	Gly	Pro	Leu 315	Tyr	Ser	Gly	Cys	Arg 320

Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala Ala Thr Lys Val Asp \$325\$

Ala Ile Cys Thr Tyr Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg 340 345 350

Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu 355 360 365

Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe 370 375 380

Thr Gln Arg Ser Ser Val Pro Thr Thr Ser Ile Pro Gly Thr Pro Thr 385 390 395 400

Val Asp Leu Gly Thr Ser Gly Thr Pro Val Ser Lys Pro Gly Pro Ser 405 410 415

Ala Ala Ser Pro 420

<210> 39

<211> 439

<212> PRT

<213> Homo sapiens

<400> 39

Glu Arg Val Leu Gln Gly Pro Leu Ser Pro Ile Phe Lys Asn Ser Ser 1 5 10 15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu 20 25 30

Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro $35 \hspace{1cm} 40 \hspace{1cm} 45$

Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu 50 55 60

Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro 85 90 95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly 100 105 110

Thr Pro Ser Ser Phe Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile 115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn 130 135 140

435

Met Gly His Pro Gly Ser Arg Lys Phe Asn Ile Thr Glu Arg Val Leu 150 155 Gln Gly Leu Leu Asn Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu 170 1.65 Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala 185 Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Cys Glu Leu Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp Arg Asp Ser Leu 235 230 Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro Thr Thr Ser Thr 245 250 Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly Thr Pro Ser Ser 265 Phe Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Leu 280 Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr 295 Gly Ser Arg Lys Phe Asn Thr Met Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys His Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr Leu Arg Leu Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser Val Thr 375 370 Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly 395 390 Phe Thr His Arg Ser Ser Val Pro Thr Thr Ser Ile Pro Gly Thr Ser 405 410 Ala Val His Leu Glu Thr Ser Gly Thr Pro Ala Ser Leu Pro Gly His 420 425 430 Thr Ala Pro Gly Pro Leu Leu

<210> 40

<211> 424

<212> PRT

<213> Homo sapiens

<400> 40

Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg
1 5 10 15

Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Tyr Thr His 20 25 30

Arg Leu Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln Leu Tyr Trp 35 40 45

Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr
50 55 60

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Gln Thr Ser 65 70 75 80

Ala Pro Asn Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Thr 85 90 95

Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr Ser Ala Gly Pro Leu 100 105 110

Leu Ile Pro Phe Thr Ile Asn Phe Thr Ile Thr Asn Leu Arg Tyr Glu 115 120 125

Glu Asn Met His His Pro Gly Ser Arg Lys Phe Asn Thr Met Glu Arg 130 135 140

Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly 145 150 155 160

Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp 165 170 175

Gly Val Ala Thr Arg Val Asp Ala Ile Cys Thr His Arg Pro Asp Pro 180 185 190

Lys Ile Pro Gly Leu Asp Arg Gln Gln Leu Tyr Trp Glu Leu Ser Gln
195 200 205

Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp 210 215 220

Ser Leu Tyr Val Asn Gly Phe Thr Gln Arg Ser Ser Val Pro Thr Thr 225 230 235 240

Ser Thr Pro Gly Thr Phe Thr Val Gln Pro Glu Thr Ser Glu Thr Pro 245 250 255

Ser Ser Leu Pro Gly Pro Thr Ala Thr Gly Pro Val Leu Pro Phe 260 265 270

Thr Leu Asn Phe Thr Ile Ile Asn Leu Gln Tyr Glu Glu Asp Met His 275 280 285

Arg Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly 290 295 300

Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser 305 310 315 320

Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys His Gly Ala Ala Thr 325 330 335

Gly Val Asp Ala Ile Cys Thr Leu Arg Leu Asp Pro Thr Gly Pro Gly 340 345 350

Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser 355 360 365

Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val 370 375 380

Asn Gly Phe Asn Pro Trp Ser Ser Val Pro Thr Thr Ser Thr Pro Gly 385 390 395 400

Gly His Thr Ala Pro Val Pro Leu 420

<210> 41

<211> 418

<212> PRT

<213> Homo sapiens

<400> 41

Thr Leu Leu Arg Pro Lys Lys Asp Gly Val Ala Thr Gly Val Asp Ala $1 \hspace{1.5cm} 5 \hspace{1.5cm} 10 \hspace{1.5cm} 15$

Ile Cys Thr His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu 20 25 30

Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr Asn Asp Ile Glu Glu Leu 35 40 45

Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr 50 55 60

His Gln Ser Ser Val Ser Thr Thr Ser Thr Pro Gly Thr Ser Thr Val

65					70					75					80
Asp	Leu	Arg	Thr	Ser 85	Gly	Thr	Pro	Ser	Ser 90	Leu	Ser	Ser	Pro	Thr 95	Ile
Met	Ala	Ala	Gly 100	Pro	Leu	Leu	Ile	Pro 105	Phe	Thr	Ile	Asn	Phe 110	Thr	Ile
Thr	Asn	Leu 115	Arg	Tyr	Glu	Glu	Asn 120	Met	His	His	Pro	Gly 125	Ser	Arg	Lys
Phe	Asn 130	Thr	Met	Glu	Arg	Val 135	Leu	Gln	Gly	Leu	Leu 140	Met	Pro	Leu	Phe
Lys 145	Asn	Thr	Ser	Val	Ser 150	Ser	Leu	Tyr	Ser	Gly 155	Cys	Arg	Leu	Thr	Leu 160
Leu	Arg	Pro	Glu	Lys 165	Asp	Gly	Ala	Ala	Thr 170	Arg	Val	Asp	Ala	Val 175	Cys
Thr	His	Arg	Pro 180	Asp	Pro	Lys	Ser	Pro 185	Gly	Leu	Asp	Arg	Glu 190	Arg	Let
Tyr	Trp	Lys 195	Leu	Ser	Gln	Leu	Thr 200	His	Gly	Ile	Thr	Glu 205	Leu	Gly	Pro
Tyr	Thr 210	Leu	Asp	Arg	Asn	Ser 215	Leu	Tyr	Val	Asn	Gly 220	Phe	Thr	His	Arg
Ser 225	Ser	Met	Pro	Thr	Thr 230	Ser	Thr	Pro	Gly	Thr 235	Ser	Thr	Val	Asp	Val 240
Gly	Thr	Ser	Gly	Thr 245	Pro	Ser	Ser	Ser	Pro 250	Ser	Pro	Thr	Thr	Ala 255	Gly
Pro	Leu	Leu	Met 260	Pro	Phe	Thr	Leu	Asn 265	Phe	Thr	Ile	Thr	Asn 270	Leu	Glr
Tyr	Glu	Glu 275	Asp	Met	Arg	Arg	Thr 280	Gly	Ser	Arg	Lys	Phe 285	Asn	Thr	Met
Glu	Arg 290	Val	Leu	Gln	Gly	Leu 295	Leu	Lys	Pro	Leu	Phe 300	Lys	Ser	Thr	Ser
Val 305	Gly	Pro	Leu	Tyr	Ser 310	Gly	Cys	Arg	Leu	Thr 315	Leu	Leu	Arg	Pro	Glu 320
Lys	His	Gly	Ala	Ala 325	Thr	Gly	Val	Asp	Ala 330	Ile	Cys	Thr	Leu	Arg 335	Leu
Asp	Pro	Thr	Gly 340	Pro	Gly	Leu	Asp	Arg 345	Glu	Arg	Leu	Tyr	Trp 350	Glu	Leı
Ser	Gln	Leu 355	Thr	Asn	Ser	Val	Thr 360	Glu	Leu	Gly	Pro	Tyr 365	Thr	Leu	Asp
Arg	Asp 370	Ser	Leu	Tyr	Val	Asn 375	Gly	Phe	Thr	His	Arg 380	Ser	Ser	Val	Pro

Thr Thr Ser Ile Pro Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly 385 390 395 400

Thr Pro Ala Ser Leu Pro Gly His Thr Ala Pro Gly Pro Leu Leu Ile 405 410 415

Pro Phe

<210> 42

<211> 443

<212> PRT

<213> Homo sapiens

<400> 42

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser 1 5 10 15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu 20 25 30

Lys Asp Gly Val Ala Thr Arg Val Asp Ala Ile Cys Thr His Arg Pro $35 \hspace{1cm} 40 \hspace{1cm} 45$

Asp Pro Lys Ile Pro Gly Leu Asp Arg Gln Gln Leu Tyr Trp Glu Leu 50 55 60

Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp
65 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr Gln Arg Ser Ser Val Pro 85 90 95

Thr Thr Ser Thr Pro Gly Thr Phe Thr Val Gln Pro Glu Thr Ser Glu
100 105 110

Thr Pro Ser Ser Leu Pro Gly Pro Thr Ala Thr Gly Pro Val Leu Leu 115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Ile Asn Leu Gln Tyr Glu Glu Asp 130 135 140

Met His Arg Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu 145 150 155 160

Gln Gly Leu Met Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu 165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Gln Glu Ala 180 185 190

Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu Asp Pro Ser Glu 195 200 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr 210 215 220

Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu 225 230 235 240

Tyr Val Asn Gly Phe Thr His Ser Gly Val Leu Cys Pro Pro Pro Ser 245 250 255

Ile Leu Gly Ile Phe Thr Val Gln Pro Glu Thr Phe Glu Thr Pro Ser 260 265 270

Ser Leu Pro Gly Pro Thr Ala Thr Gly Pro Val Leu Leu Pro Phe Thr 275 280 285

Leu Asn Phe Thr Ile Ile Asn Leu Gln Tyr Glu Glu Asp Met His Arg 290 295 300

Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu 305 310 315 320

Leu Met Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly 325 330 335

Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Gln Glu Ala Ala Thr Gly 340 345 350

Val Asp Thr Ile Cys Thr His Arg Val Asp Pro Ile Gly Pro Gly Leu 355 360 365

Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser Ile 370 375 380

Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn 385 390 395 400

Gly Phe Asn Pro Trp Ser Ser Val Pro Thr Thr Ser Thr Pro Gly Thr 405 410 415

Ser Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Ser Leu Pro Gly 420 425 430

His Thr Ala Pro Val Pro Leu Leu Ile Pro Phe
435

<210> 43

<211> 442

<212> PRT

<213> Homo sapiens

<400> 43

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Arg Asn Ser Ser

1				5					10					15	
Leu	Glu	Tyr	Leu 20	Tyr	Ser	Gly	Cys	Arg 25	Leu	Ala	Ser	Leu	Arg 30	Pro	Glu
Lys	Asp	Ser 35	Ser	Ala	Met	Ala	Val 40	Asp	Ala	Ile	Cys	Thr 45	His	Arg	Pro
Asp	Pro 50	Glu	Asp	Leu	Gly	Leu 55	Asp	Arg	Glu	Arg	Leu 60	Tyr	Trp	Glu	Leu
Ser 65	Asn	Leu	Thr	Asn	Gly 70	Ile	Gln	Glu	Leu	Gly 75	Pro	Tyr	Thr	Leu	Asp 80
Arg	Asn	Ser	Leu	Tyr 85	Val	Asn	Gly	Phe	Thr 90	His	Arg	Ser	Ser	Met 95	Pro
Thr	Thr	Ser	Thr 100	Pro	Gly	Thr	Ser	Thr 105	Val	Asp	Val	Gly	Thr 110	Ser	Gly
Thr	Pro	Ser 115	Ser	Ser	Pro	Ser	Pro 120	Thr	Thr	Ala	Gly	Pro 125	Leu	Leu	Met
Pro	Phe 130	Thr	Leu	Asn	Phe	Thr 135	Ile	Thr	Asn	Leu	Gln 140	Tyr	Glu	Glu	Asp
Met 145	Arg	Arg	Thr	Gly	Ser 150	Arg	Lys	Phe	Asn	Thr 155	Met	Glu	Ser	Val	Leu 160
Gln	Gly	Leu	Leu	Lys 165	Pro	Leu	Phe	Lys	Asn 170	Thr	Ser	Val	Gly	Pro 175	Leu
Tyr	Ser	Gly	Cys 180	Arg	Leu	Thr	Leu	Leu 185	Arg	Pro	Lys	Lys	Asp 190	Gly	Ala
Ala	Thr	Gly 195	Val	Asp	Ala	Ile	Cys 200	Thr	His	Arg	Leu	Asp 205	Pro	Lys	Ser
Pro	Gly 210	Leu	Asn	Arg	Glu	Gln 215	Leu	Tyr	Trp	Glu	Leu 220	Ser	Lys	Leu	Thr
Asn 225	Asp	Ile	Glu	Glu	Val 230	Gly	Pro	Tyr	Thr	Leu 235	Asp	Arg	Asn	Ser	Leu 240
Tyr	Val	Asn	Gly	Phe 245	Thr	His	Arg	Ser	Phe 250	Val	Ala	Pro	Thr	Ser 255	Thr
Leu	Gly	Thr	Ser 260	Thr	Val	Asp	Leu	Gly 265	Thr	Ser	Gly	Thr	Pro 270	Ser	Ser
Leu	Pro	Ser 275	Pro	Thr	Thr	Gly	Val 280	Pro	Leu	Leu	Ile	Pro 285	Phe	Thr	Leu
Asn	Phe 290	Thr	Ile	Thr	Asn	Leu 295	Gln	Tyr	Glu	Glu	Asn 300	Met	Gly	His	Pro
Gly 305	Ser	Arg	Lys	Phe	Asn 310	Ile	Met	Glu	Arg	Val 315	Leu	Gln	Gly	Leu	Leu 320

Met Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu Tyr Ser Gly Cys 325 330 335

Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr Arg Val340 345 350

Val Ala Val Cys Thr His Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp 355 360 365

Arg Glu Arg Leu Tyr Trp Lys Leu Ser Gln Leu Thr His Gly Ile Thr 370 375 380

Glu Leu Gly Pro Tyr Thr Leu Asp Arg His Ser Leu Tyr Val Asn Gly 385 390 395 400

Phe Thr His Gln Ser Ser Met Thr Thr Thr Arg Thr Pro Asp Thr Ser 405 410 415

Thr Met His Leu Ala Thr Ser Arg Thr Pro Ala Ser Leu Ser Gly Pro 420 425 430

Thr Thr Ala Ser Pro Leu Leu Ile Pro Phe 435 440

<210> 44

<211> 442

<212> PRT

<213> Homo sapiens

<400> 44

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser 1 10 15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu 20 25 30

Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu 35 40 45

Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu 50 55 60

Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp 65 70 75 80

Arg Gly Ser Leu Tyr Val Asn Gly Phe Thr His Arg Asn Phe Val Pro 85 90 95

Ile Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Gly Thr Ser Glu

Thr Pro Ser Ser Leu Pro Arg Pro Ile Val Pro Gly Pro Leu Leu Ile 115 120 125 Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn 135 Met Gly His Pro Gly Ser Arg Lys Phe Asn Ile Thr Glu Arg Val Leu 150 155 Gln Gly Leu Leu Lys Pro Leu Phe Arg Asn Ser Ser Leu Glu Tyr Leu 170 Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Ser Ser 185 Thr Met Ala Val Asp Ala Ile Cys Thr His Arg Pro Asp Pro Glu Asp 195 Leu Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Asn Leu Thr 215 220 Asn Gly Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu 230 Tyr Val Asn Gly Phe Thr His Arg Ser Phe Met Pro Thr Thr Ser Thr 250 Leu Gly Thr Ser Thr Val Asp Val Gly Thr Ser Gly Thr Pro Ser Ser Ser Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Met Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr 290 Gly Ser Arg Lys Phe Asn Thr Met Glu Ser Val Leu Gln Gly Leu Leu 315 310 Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys 325 Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala Ala Thr Gly Val 345 340 Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn 365 355 360 Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr Asn Asp Ile Glu 375 Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly 400 390 395 Phe Thr His Gln Ser Ser Val Ser Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Pro Arg Thr Ser Gly Thr Pro Ser Ser Leu Ser Ser Pro 425 Thr Ile Met Ala Ala Gly Pro Leu Leu Ile

435 440

<210> 45

<211> 379

<212> PRT

<213> Homo sapiens

<400> 45

Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Met Phe Lys Asn Thr Ser 1 5 10 15

Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu 20 25 30

Lys Asn Gly Ala Ala Thr Gly Met Asp Ala Ile Cys Ser His Arg Leu $35 \hspace{1cm} 40 \hspace{1cm} 45$

Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu 50 55 60

Ser Gln Leu Thr His Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp
65 70 75 80

Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Ala \$85\$ 90 95

Pro Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly 100 105 110

Thr Pro Ser Ser Leu Pro Ser Pro Thr Thr Ala Val Pro Leu Leu Ile 115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Lys Tyr Glu Glu Asp 130 135 140

Met His Cys Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu 145 150 155 160

Gln Ser Leu Phe Gly Pro Met Phe Lys Asn Thr Ser Val Gly Pro Leu 165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Phe Arg Ser Glu Lys Asp Gly Ala 180 185 190

Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser

Pro Gly Val Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr 210 215 220

Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu 225 230 235 240

Tyr Val Asn Gly Phe Thr His Gln Thr Ser Ala Pro Asn Thr Ser Thr 245 250 255

Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Ser 260 265 270

Leu Pro Ser Pro Thr Ser Ala Gly Pro Leu Leu Val Pro Phe Thr Leu 275 280 285

Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr 290 295 300

Gly Ser Arg Lys Phe Asn Thr Met Glu Ser Val Leu Gln Gly Leu Leu 305 310 315 320

Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys 325 330 335

Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr Gly Val 340 345 350

Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn 355 360 365

Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu 370 375

<210> 46

<211> 439

<212> PRT

<213> Homo sapiens

<220>

<221> VARIANT

<222> (1)..(439)

<223> Any "X" = any amino acid

<400> 46

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser
1 5 10 15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu 20 25 30

Lys His Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr Leu Arg Leu 35 40 45

Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu

	50					55					60				
Ser 65	Gln	Leu	Thr	Asn	Ser 70	Val	Thr	Glu	Leu	Gly 75	Pro	Tyr	Thr	Leu	Asp 80
Arg	Asp	Ser	Leu	Tyr 85	Val	Asn	Gly	Phe	Thr 90	His	Arg	Ser	Ser	Val 95	Pro
Thr	Thr	Ser	Ile 100	Pro	Gly	Thr	Ser	Ala 105	Val	His	Leu	Glu	Thr 110	Ser	Gly
Thr	Pro	Ala 115	Ser	Leu	Pro	Gly	His 120	Thr	Ala	Pro	Gly	Pro 125	Leu	Leu	Ile
Pro	Phe 130	Thr	Leu	Asn	Phe	Thr 135	Ile	Thr	Asn	Leu	His 140	Tyr	Glu	Glu	Asn
Met 145	Gln	His	Pro	Gly	Ser 150	Arg	Lys	Phe	Asn	Thr 155	Met	Glu	Arg	Val	Leu 160
Gln	Gly	Cys	Leu	Val 165	Pro	Cys	Ser	Arg	Asn 170	Thr	Asn	Val	Gly	Leu 175	Leu
Tyr	Ser	Gly	Cys 180	Arg	Leu	Thr	Leu	Leu 185	Xaa	Xaa	Xaa	Xaa	Xaa 190	Xaa	Xaa
Xaa	Xaa	Xaa 195	Xaa	Xaa	Xaa	Xaa	Xaa 200	Xaa	Xaa	Xaa	Xaa	Xaa 205	Xaa	Xaa	Xaa
Xaa	Xaa 210	Xaa	Xaa	Xaa	Xaa	Xaa 215	Xaa	Xaa	Xaa	Xaa	Xaa 220	Xaa	Xaa	Xaa	Xaa
Xaa 225	Xaa	Xaa	Xaa	Xaa	Xaa 230	Gly	Pro	Tyr	Thr	Leu 235	Asp	Arg	Asn	Ser	Leu 240
Tyr	Val	Asn	Gly	Phe 245	Thr	His	Arg	Ser	Ser 250	Val	Ala	Pro	Thr	Ser 255	Thr
Pro	Gly	Thr	Ser 260	Thr	Val	Asp	Leu	Gly 265	Thr	Ser	Gly	Thr	Pro 270	Ser	Ser
Leu	Pro	Ser 275	Pro	Thr	Thr	Val	Pro 280	Leu	Leu	Val	Pro	Phe 285	Thr	Leu	Asn
Phe	Thr 290	Ile	Thr	Asn	Leu	Gln 295	Tyr	Gly	Glu	Asp	Met 300	Arg	His	Pro	Gly
Ser 305	Arg	Lys	Phe	Asn	Thr 310	Thr	Glu	Arg	Val	Leu 315	Gln	Gly	Leu	Leu	Gly 320
Pro	Leu	Phe	Lys	Asn 325	Ser	Ser	Val	Gly	Pro 330	Leu	Tyr	Ser	Gly	Cys 335	Arg
Leu	Ile	Ser	Leu 340	Arg	Ser	Glu	Lys	Asp 345	Gly	Ala	Ala	Thr	Gly 350	Val	Asp
Ala	Ile	Cys 355	Thr	His	His	Leu	Asn 360	Pro	Gln	Ser	Pro	Gly 365	Leu	Asp	Arg

Glu Gln Leu Tyr Trp Gln Leu Ser Gln Val Thr Asn Gly Ile Lys Glu 370 375 380

Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe 385 390 395 400

Thr His Arg Ser Ser Gly Leu Thr Thr Ser Thr Pro Trp Thr Ser Thr 405 410 415

Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Pro Val Pro Ser Pro Thr 420 425 430

Thr Ala Gly Pro Leu Leu Ile 435

<210> 47

<211> 1366

<212> PRT

<213> Homo sapiens

<400> 47

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Arg Asn Ser Ser 1 10 15

Leu Glu Tyr Leu Tyr Ser Gly Cys Arg Leu Ala Ser Leu Arg Pro Glu 20 25 30

Lys Asp Ser Ser Ala Met Ala Val Asp Ala Ile Cys Thr His Arg Pro 35 40 45

Asp Pro Glu Asp Leu Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu 50 55 60

Ser Asn Leu Thr Asn Gly Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp 70 75 80

Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Met Pro 85 90 95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Val Gly Thr Ser Gly 100 105 110

Thr Pro Ser Ser Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Met 115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp 130 135 140

Met Arg Arg Thr Gly Ser Arg Lys Phe Asn Thr Met Glu Arg Val Leu 145 150 155 160

Gln Gly Pro Leu Ser Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu 165 170 175

Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala 185 Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp Arg Asp Ser Leu 235 230 Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly Thr Pro Ser Ser 265 Phe Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Leu 280 Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn Met Gly His Pro Gly Ser Arg Lys Phe Asn Ile Thr Glu Arg Val Leu Gln Gly Leu Leu 305 310 Asn Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu Tyr Ser Gly Cys 325 330 Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg Pro Gly Leu Asp 360 Arg Glu Gln Leu Tyr Cys Glu Leu Ser Gln Leu Thr His Asn Ile Thr 370 Glu Leu Gly Pro Tyr Ser Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly 395 390 Phe Thr His Gln Asn Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser 405 410 Thr Val Tyr Trp Ala Thr Thr Gly Thr Pro Ser Ser Phe Pro Gly His 420 425 Thr Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile 435 440 445 Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr Gly Ser Arg Lys Phe Asn Thr Met Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe 475

Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu

				485					490					495	
Leu	Arg	Pro	Glu 500	Lys	His	Gly	Ala	Ala 505	Thr	Gly	Val	Asp	Ala 510	Ile	Суѕ
Thr	Leu	Arg 515	Leu	Asp	Pro	Thr	Gly 520	Pro	Gly	Leu	Asp	Arg 525	Glu	Arg	Leu
Tyr	Trp 530	Glu	Leu	Ser	Gln	Leu 535	Thr	Asn	Ser	Val	Thr 540	Glu	Leu	Gly	Pro
Tyr 545	Thr	Leu	Asp	Arg	Asp 550	Ser	Leu	Tyr	Val	Asn 555	Gly	Phe	Thr	His	Arg 560
Ser	Ser	Val	Pro	Thr 565	Thr	Ser	Ile	Pro	Gly 570	Thr	Ser	Ala	Val	His 575	Leu
Glu	Thr	Ser	Gly 580	Thr	Pro	Ala	Ser	Leu 585	Pro	Gly	His	Thr	Ala 590	Pro	Gly
Pro	Leu	Leu 595	Val	Pro	Phe	Thr	Leu 600	Asn	Phe	Thr	Ile	Thr 605	Asn	Leu	Gln
Tyr	Glu 610	Glu	Asp	Met	Arg	His 615	Pro	Gly	Ser	Arg	Lys 620	Phe	Asn	Thr	Thr
Glu 625	Arg	Val	Leu	Gln	Gly 630	Leu	Leu	Lys	Pro	Leu 635	Phe	Lys	Ser	Thr	Ser 640
Val	Gly	Pro	Leu	Tyr 645	Ser	Gly	Cys	Arg	Leu 650	Thr	Leu	Leu	Arg	Pro 655	Glu
Lys	Arg	Gly	Ala 660	Ala	Thr	Gly	Val	Asp 665	Thr	Ile	Cys	Thr	His 670	Arg	Leu
Asp	Pro	Leu 675	Asn	Pro	Gly	Leu	Asp 680	Arg	Glu	Gln	Leu	Tyr 685	Trp	Glu	Leu
Ser	Lys 690	Leu	Thr	Arg	Gly	Ile 695	Ile	Glu	Leu	Gly	Pro 700	Tyr	Leu	Leu	Asp
Arg 705	Gly	Ser	Leu	Tyr	Val 710	Asn	Gly	Phe	Thr	His 715	Arg	Asn	Phe	Val	Pro 720
Ile	Thr	Ser	Thr	Pro 725	Gly	Thr	Ser	Thr	Val 730	His	Leu	Gly	Thr	Ser 735	Glu
Thr	Pro	Ser	Ser 740	Leu	Pro	Arg	Pro	Ile 745	Val	Pro	Gly	Pro	Leu 750	Leu	Ile
Pro	Phe	Thr 755	Leu	Asn	Phe	Thr	Ile 760	Thr	Asn	Leu	Gln	Tyr 765	Glu	Glu	Asn
Met	Gly 770	His	Pro	Gly	Ser	Arg 775	Lys	Phe	Asn	Ile	Thr 780	Glu	Arg	Val	Leu
Gln 785	Gly	Leu	Leu	Lys	Pro 790	Leu	Phe	Arg	Asn	Ser 795	Ser	Leu	Glu	Tyr	Leu 800

- Tyr Ser Gly Cys Arg Leu Ala Ser Leu Arg Pro Glu Lys Asp Ser Ser 805 810 815
- Ala Met Ala Val Asp Ala Ile Cys Thr His Arg Pro Asp Pro Glu Asp 820 825 830
- Leu Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Asn Leu Thr 835 840 845
- Asn Gly Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu 850 860
- Tyr Val Asn Gly Phe Thr His Arg Ser Ser Met Pro Thr Thr Ser Thr 865 870 875 880
- Pro Gly Thr Ser Thr Val Asp Val Gly Thr Ser Gly Thr Pro Ser Ser 885 890 895
- Ser Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Met Pro Phe Thr Leu 900 905 910
- Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr 915 920 925
- Gly Ser Arg Lys Phe Asn Thr Met Glu Ser Val Leu Gln Gly Leu Leu 930 935 940
- Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys 945 950 955 960
- Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala Ala Thr Gly Val 965 970 975
- Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn 980 985 990
- Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr Asn Asp Ile Glu 995 1000 1005
- Glu Val Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn 1010 1015 1020
- Gly Phe Thr His Arg Ser Phe Val Ala Pro Thr Ser Thr Leu Gly 1025 1030 1035
- Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Ser Leu 1040 1045 1050
- Pro Ser Pro Thr Thr Gly Val Pro Leu Leu Ile Pro Phe Thr Leu 1055 1060 1065
- Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn Met Gly His 1070 1075 1080
- Pro Gly Ser Arg Lys Phe Asn Ile Met Glu Arg Val Leu Gln Gly 1085 1090 1095
- Leu Leu Ser Pro Ile Phe Lys Asn Ser Ser Val Gly Ser Leu Tyr 1100 1105 1110

<212> PRT

Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala 1120 1115 Ala Thr Arg Val Asp Ala Val Cys Thr His Arg Pro Asp Pro Lys 1135 Ser Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Lys Leu Ser Gln 1145 1150 Leu Thr His Gly Ile Ile Glu Leu Gly Pro Tyr Thr Leu Asp Arg 1165 1160 His Ser Phe Tyr Val Asn Gly Phe Thr His Gln Ser Ser Met Thr 1180 1175 Thr Thr Arg Thr Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser 1195 1190 Arg Thr Pro Ala Ser Leu Ser Gly Pro Thr Thr Ala Ser Pro Leu 1205 1210 Leu Val Leu Phe Thr Ile Asn Phe Thr Ile Thr Asn Gln Arg Tyr 1225 Glu Glu Asn Met His His Pro Gly Ser Arg Lys Phe Asn Thr Thr 1235 1240 Glu Arg Val Leu Gln Gly Leu Leu Arg Pro Val Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg 1265 Pro Lys Lys Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys Thr 1280 Tyr Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu 1295 1300 Tyr Trp Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly 1315 1310 Pro Tyr Thr Gln Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr 1325 1330 His Arg Ser Ser Val Pro Thr Thr Ser Ile Pro Gly Thr Ser Ala 1350 1340 1345 Val His Leu Glu Thr Ser Gly Thr Pro Ala Ser Leu Pro 1365 1355 1360 <210> 48 <211> 1148

<213> Homo sapiens

<400> 48

Met Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr Arg Val 25 Asp Ala Val Cys Thr His Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Lys Leu Ser Gln Leu Thr His Gly Ile Ile Glu Leu Gly Pro Tyr Thr Leu Asp Arg His Ser Phe Tyr Val Asn Gly Phe Thr His Gln Ser Ser Met Thr Thr Thr Arg Thr Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser Arg Thr Pro Ala Ser Leu Ser Gly Pro 105 Thr Thr Ala Ser Pro Leu Leu Val Leu Phe Thr Ile Asn Phe Thr Ile 120 Thr Asn Gln Arg Tyr Glu Glu Asn Met His His Pro Gly Ser Arg Lys 135 Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Arg Pro Val Phe 150 Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro 210 Tyr Thr Gln Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Arg 235 230 Ser Ser Val Pro Thr Thr Ser Ile Pro Gly Thr Ser Ala Val His Leu 250 245 Glu Thr Ser Gly Thr Pro Ala Ser Leu Pro Gly Pro Ser Ala Ala Ser 260 265 Pro Leu Leu Val Leu Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Arg

280

285

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Thr Asp Asn Val Met Lys His Leu Leu Ser Pro Leu Phe Gln Arg Ser

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Gln	Pro	Leu	Ser	Gly 645	Pro	Gly	Leu	Pro	Ile 650	Lys	Gln	Val	Phe	His 655	Glu
Leu	Ser	Gln	Gln 660	Thr	His	Gly	Ile	Thr 665	Arg	Leu	Gly	Pro	Tyr 670	Ser	Leu
Asp	Lys	Asp 675	Ser	Leu	Tyr	Leu	Asn 680	Gly	Tyr	Asn	Glu	Pro 685	Gly	Leu	Asp
Glu	Pro 690	Pro	Thr	Thr	Pro	Lys 695	Pro	Ala	Thr	Thr	Phe 700	Leu	Pro	Pro	Leu
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Ser	Ala	Thr	Phe 740	Asn	Ser	Thr	Glu	Gly 745	Val	Leu	Gln	His	Leu 750	Leu	Arg
Pro	Leu	Phe 755	Gln	Lys	Ser	Ser	Met 760	Gly	Pro	Phe	Tyr	Leu 765	Gly	Cys	Gln
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Thr 785	Thr	Cys	Thr	Tyr	His 790	Pro	Asp	Pro	Val	Gly 795	Pro	Gly	Leu	Asp	Ile 800
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Leu	Gly	Phe	Tyr 820	Val	Leu	Asp	Arg	Asp 825	Ser	Leu	Phe	Ile	Asn 830	Gly	Tyr
Ala	Pro	Gln 835	Asn	Leu	Ser	Ile	Arg 840	Gly	Glu	Tyr	Gln	Ile 845	Asn	Phe	His
Ile	Val 850	Asn	Trp	Asn	Leu	Ser 855	Asn	Pro	Asp	Pro	Thr 860	Ser	Ser	Glu	Tyr
Ile 865	Thr	Leu	Leu	Arg	Asp 870	Ile	Gln	Asp	Lys	Val 875	Thr	Thr	Leu	Tyr	Lys 880
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Thr	Met	Asp	Ser 900	Val	Leu	Val	Thr	Val 905	Lys	Ala	Leu	Phe	Ser 910	Ser	Asn

- Leu Asp Pro Ser Leu Val Glu Gln Val Phe Leu Asp Lys Thr Leu Asn 915 920 925
- Ala Ser Phe His Trp Leu Gly Ser Thr Tyr Gln Leu Val Asp Ile His 930 940
- Val Thr Glu Met Glu Ser Ser Val Tyr Gln Pro Thr Ser Ser Ser 945 950 955 . 960
- Thr Gln His Phe Tyr Leu Asn Phe Thr Ile Thr Asn Leu Pro Tyr Ser 965 970 975
- Gln Asp Lys Ala Gln Pro Gly Thr Thr Asn Tyr Gln Arg Asn Lys Arg 980 985 990
- Asn Ile Glu Asp Ala Leu Asn Gln Leu Phe Arg Asn Ser Ser Ile Lys 995 1000 1005
- Ser Tyr Phe Ser Asp Cys Gln Val Ser Thr Phe Arg Ser Val Pro 1010 1015 1020
- Asn Arg His His Thr Gly Val Asp Ser Leu Cys Asn Phe Ser Pro 1025 1030 1035
- Leu Ala Arg Arg Val Asp Arg Val Ala Ile Tyr Glu Glu Phe Leu 1040 1045 1050
- Arg Met Thr Arg Asn Gly Thr Gln Leu Gln Asn Phe Thr Leu Asp 1055 1060 1065
- Arg Ser Ser Val Leu Val Asp Gly Tyr Ser Pro Asn Arg Asn Glu 1070 1075 1080
- Pro Leu Thr Gly Asn Ser Asp Leu Pro Phe Trp Ala Val Ile Leu 1085 1090 1095
- Ile Gly Leu Ala Gly Leu Leu Gly Leu Ile Thr Cys Leu Ile Cys 1100 1105 1110
- Gly Val Leu Val Thr Thr Arg Arg Lys Lys Glu Gly Glu Tyr 1115 1120 1125
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Asp Pro Glu Asp Leu Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu 50 55 60

Ser Asn Leu Thr Asn Gly Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp 70 75 80

Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Met Pro 85 90 95

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Thr Pro Ser Ser Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Met 115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp 130 135 140

Met Arg Arg Thr Gly Ser Arg Lys Phe Asn Thr Met Glu Arg Val Leu 145 150 155 160

Gln Gly Pro Leu Ser Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu 165 170 175

Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala 180 185 190

Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg 195 200 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr 210 215 220

His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp Arg Asp Ser Leu 225 230 235 240

Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro Thr Thr Ser Thr 245 250 255

Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly Thr Pro Ser Ser 260 265 270

Phe Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Leu 275 280 285

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Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln

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Lys	Arg	Gly	Ala 660	Ala	Thr	Gly	Val	Asp 665	Thr	Ile	Cys	Thr	His 670	Arg	Leu
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- Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala Ala Thr Gly Val 965 970 975
- Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn 980 985 990
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- Glu Val Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn 1010 1015 1020
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- Pro Gly Ser Arg Lys Phe Asn Ile Met Glu Arg Val Leu Gln Gly 1085 1090 1095
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- Arg Thr Pro Ala Ser Leu Ser Gly Pro Thr Thr Ala Ser Pro Leu 1205 1210 1215

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Glu	Glu 1235	Asn	Met	His	His	Pro 1240	Gly	Ser	Arg	Lys	Phe 1245	Asn	Thr	Thr
Glu	Arg 1250	Val	Leu	Gln	Gly	Leu 1255	Leu	Arg	Pro	Val	Phe 1260	Lys	Asn	Thr
Ser	Val 1265	Gly	Pro	Leu	Tyr	Ser 1270	Gly	Cys	Arg	Leu	Thr 1275	Leu	Leu	Arg
Pro	Lys 1280	Lys	Asp	Gly	Ala	Ala 1285		Lys	Val	Asp	Ala 1290	Ile	Cys	Thr
Tyr	Arg 1295	Pro	Asp	Pro	Lys	Ser 1300	Pro	Gly	Leu	Asp	Arg 1305	Glu	Gln	Leu
Tyr	Trp 1310		Leu	Ser	Gln	Leu 1315	Thr	His	Ser	Ile	Thr 1320	Glu	Leu	Gly
Pro	Tyr 1325	Thr	Gln	Asp	Arg	Asp 1330		Leu	Tyr	Val	Asn 1335	Gly	Phe	Thr
His	Arg 1340	Ser	Ser	Val	Pro	Thr 1345	Thr	Ser	Ile	Pro	Gly 1350	Thr	Ser	Ala
Val	His 1355	Leu	Glu	Thr	Ser	Gly 1360	Thr	Pro	Ala	Ser	Leu 1365	Pro	Gly	Pro
Ser	Ala 1370	Ala	Ser	Pro	Leu	Leu 1375		Leu	Phe	Thr	Leu 1380	Asn	Phe	Thr
Ile	Thr 1385	Asn	Leu	Arg	Tyr	Glu 1390	Glu	Asn	Met	Gln	His 1395	Pro	Gly	Ser
Arg	Lys 1400		Asn	Thr	Thr	Glu 1405	Arg	Val	Leu	Gln	Gly 1410	Leu	Leu	Arg
Ser	Leu 1415		Lys	Ser	Thr	Ser 1420		Gly	Pro	Leu	Tyr 1425	Ser	Gly	Cys
Arg	Leu 1430	Thr	Leu	Leu	Arg	Pro 1435	Glu	Lys	Asp	Gly	Thr 1440	Ala	Thr	Gly
Val	Asp 1445	Ala	Ile	Cys	Thr	His 1450	His	Pro	Asp	Pro	Lys 1455	Ser	Pro	Arg
Leu	Asp 1460	Arg	Glu	Gln	Leu	Tyr 1465	Trp	Glu	Leu	Ser	Gln 1470	Leu	Thr	His
Asn	Ile 1475	Thr	Glu	Leu	Gly	His 1480	Tyr	Ala	Leu	Asp	Asn 1485	Asp	Ser	Leu
Phe	Val 1490	Asn	Gly	Phe	Thr	His 1495	Arg	Ser	Ser	Val	Ser 1500	Thr	Thr	Ser
Thr	Pro	Gly	Thr	Pro	Thr	Val	Tyr	Leu	Gly	Ala	Ser	Lys	Thr	Pro

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Ala	Ser 1520	Ile	Phe	Gly	Pro	Ser 1525	Ala	Ala	Ser	His	Leu 1530	Leu	Ile	Leu
Phe	Thr 1535	Leu	Asn	Phe	Thr	Ile 1540	Thr	Asn	Leu	Arg	Tyr 1545	Glu	Glu	Asn
Met	Trp 1550	Pro	Gly	Ser	Arg	Lys 1555	Phe	Asn	Thr	Thr	Glu 1560	Arg	Val	Leu
Gln	Gly 1565	Leu	Leu	Arg	Pro	Leu 1570	Phe	Lys	Asn	Thr	Ser 1575	Val	Gly	Pro
Leu	Tyr 1580	Ser	Gly	Ser	Arg	Leu 1585	Thr	Leu	Leu	Arg	Pro 1590	Glu	Lys	Asp
Gly	Glu 1595	Ala	Thr	Gly	Val	Asp 1600	Ala	Ile	Cys	Thr	His 1605	Arg	Pro	Asp
Pro	Thr 1610	Gly	Pro	Gly	Leu	Asp 1615	Arg	Glu	Gln	Leu	Tyr 1620	Leu	Glu	Leu
Ser	Gln 1625	Leu	Thr	His	Ser	Ile 1630	Thr	Glu	Leu	Gly	Pro 1635	Tyr	Thr	Leu
Asp	Arg 1640	Asp	Ser	Leu	Tyr	Val 1645	Asn	Gly	Phe	Thr	His 1650	Arg	Ser	Ser
Val	Pro 1655	Thr	Thr	Ser	Thr	Gly 1660	Val	Val	Ser	Glu	Glu 1665	Pro	Phe	Thr
Leu	Asn 1670	Phe	Thr	Ile	Asn	Asn 1675	Leu	Arg	Tyr	Met	Ala 1680	Asp	Met	Gly
Gln	Pro 1685	Gly	Ser	Leu	Lys	Phe 1690	Asn	Ile	Thr	Asp	Asn 1695	Val	Met	Lys
His	Leu 1700	Leu	Ser	Pro	Leu	Phe 1705	Gln	Arg	Ser	Ser	Leu 1710	Gly	Ala	Arg
Tyr	Thr 1715	Gly	Cys	Arg	Val	Ile 1720	Ala	Leu	Arg	Ser	Val 1725	Lys	Asn	Gly
Ala	Glu 1730	Thr	Arg	Val	Asp	Leu 1735	Leu	Cys	Thr	Tyr	Leu 1740	Gln	Pro	Leu
Ser	Gly 1745	Pro	Gly	Leu	Pro	Ile 1750	Lys	Gln	Val	Phe	His 1755	Glu	Leu	Ser
Gln	Gln 1760	Thr	His	Gly	Ile	Thr 1765	Arg	Leu	Gly	Pro	Tyr 1770	Ser	Leu	Asp
Lys	Asp 1775	Ser	Leu	Tyr	Leu	Asn 1780	Gly	Tyr	Asn	Glu	Pro 1785	Gly	Leu	Asp
Glu	Pro 1790	Pro	Thr	Thr	Pro	Lys 1795	Pro	Ala	Thr	Thr	Phe 1800	Leu	Pro	Pro

Leu	Ser 1805	Glu	Ala	Thr	Thr	Ala 1810	Met	Gly	Tyr	His	Leu 1815	Lys	Thr	Leu
Thr	Leu 1820	Asn	Phe	Thr	Ile	Ser 1825	Asn	Leu	Gln	Tyr	Ser 1830	Pro	Asp	Met
Gly	Lys 1835	_	Ser	Ala	Thr	Phe 1840		Ser	Thr	Glu	Gly 1845	Val	Leu	Gln
His	Leu 1850	Leu	Arg	Pro	Leu	Phe 1855	Gln	Lys	Ser	Ser	Met 1860	Gly	Pro	Phe
Tyr	Leu 1865	Gly	Cys	Gln	Leu	Ile 1870		Leu	Arg	Pro	Glu 1875	Lys	Asp	Gly
Ala	Ala 1880		Gly	Val	Asp	Thr 1885		Cys	Thr	Tyr	His 1890	Pro	Asp	Pro
Val	Gly 1895	Pro	Gly	Leu	Asp	Ile 1900	Gln	Gln	Leu	Tyr	Trp 1905	Glu	Leu	Ser
Gln	Leu 1910	Thr	His	Gly	Val	Thr 1915	Gln	Leu	Gly	Phe	Tyr 1920	Val	Leu	Asp
Arg	Asp 1925	Ser	Leu	Phe	Ile	Asn 1930		Tyr	Ala	Pro	Gln 1935	Asn	Leu	Ser
Ile	Arg 1940	Gly	Glu	Tyr	Gln	Ile 1945	Asn	Phe	His	Ile	Val 1950	Asn	Trp	Asn
Leu	Ser 1955	Asn	Pro	Asp	Pro	Thr 1960		Ser	Glu	Tyr	Ile 1965	Thr	Leu	Leu
Arg	Asp 1970		Gln	Asp	Lys	Val 1975		Thr	Leu	Tyr	Lys 1980	Gly	Ser	Gln
Leu	His 1985	Asp	Thr	Phe	Arg	Phe 1990		Leu	Val	Thr	Asn 1995	Leu	Thr	Met
Asp	Ser 2000		Leu	Val	Thr	Val 2005		Ala	Leu	Phe	Ser 2010	Ser	Asn	Leu
Asp	Pro 2015		Leu	Val	Glu	Gln 2020	Val	Phe	Leu	Asp	Lys 2025	Thr	Leu	Asn
Ala	Ser 2030	Phe	His	Trp	Leu	Gly 2035		Thr	Tyr	Gln	Leu 2040	Val	Asp	Ile
His	Val 2045	Thr	Glu	Met	Glu	Ser 2050	Ser	Val	Tyr	Gln	Pro 2055	Thr	Ser	Ser
Ser	Ser 2060	Thr	Gln	His	Phe	Tyr 2065	Leu	Asn	Phe	Thr	Ile 2070	Thr	Asn	Leu
Pro	Tyr 2075		Gln	Asp	Lys	Ala 2080	Gln	Pro	Gly	Thr	Thr 2085	Asn	Tyr	Gln
Arg	Asn 2090	-	Arg	Asn	Ile	Glu 2095	Asp	Ala	Leu	Asn	Gln 2100	Leu	Phe	Arg

Asn Ser Ser Ile Lys Ser Tyr Phe Ser Asp Cys Gln Val Ser Thr 2105 2110 2115

Phe Arg Ser Val Pro Asn Arg His His Thr Gly Val Asp Ser Leu 2120 2130

Cys Asn Phe Ser Pro Leu Ala Arg Arg Val Asp Arg Val Ala Ile 2135 2140 2145

Tyr Glu Glu Phe Leu Arg Met Thr Arg Asn Gly Thr Gln Leu Gln 2150 2155 2160

Asn Phe Thr Leu Asp Arg Ser Ser Val Leu Val Asp Gly Tyr Ser 2165 2170 2175

Pro Asn Arg Asn Glu Pro Leu Thr Gly Asn Ser Asp Leu Pro Phe 2180 2185 2190

Trp Ala Val Ile Leu Ile Gly Leu Ala Gly Leu Leu Gly Leu Ile 2195 2200 2205

Thr Cys Leu Ile Cys Gly Val Leu Val Thr Thr Arg Arg Arg Lys 2210 2215 2220

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Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu 65 70 75 80

Arg Pro Glu Lys His Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr 85 90 95

His Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr 100 105 110

Trp Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr 115 120 125

Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Arg Ser 130 135 140

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Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu 50 55 60

Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp 65 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr Gln Arg Ser Ser Val Pro 85 90 95

Thr Thr Ser Ile Pro Gly Thr Pro Thr Val Asp Leu Gly Thr Ser Gly 100 105 110

Thr Pro Val Ser Lys Pro Gly Pro Ser Ala Ala Ser Pro Leu Leu Ile 115 120 125

Pro Phe Thr Ile Asn Phe Thr Ile Thr Asn Leu Arg Tyr Glu Glu Asn 130 135 140

Met Gly His Pro Gly Ser Arg Lys Phe Asn Ile Met Glu Arg Val Leu 145 150 155 160

Gln Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu 165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala 180 185 190

Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser 195 200 205

Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr 210 215 220

Asn Asp Ile Glu Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu 225 230 235 240

Tyr Val Asn Gly Phe Thr His Gln Ser Ser Val Ser Thr Thr Ser Thr 245 250 255

Pro Gly Thr Ser Thr Val Asp Leu Arg Thr Ser Gly Thr Pro Ser Ser 260 265 270

Leu Ser Ser Pro Thr Ile Met Ala Ala Gly Pro Leu Leu Ile Pro Phe 275 280 285

Thr Ile Asn Phe Thr Ile Thr Asn Leu Arg Tyr Glu Glu Asn Met His 295 His Pro Gly Ser Arg Lys Phe Asn Thr Met Glu Arg Val Leu Gln Gly 310 315 Leu Leu Met Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu Tyr Ser 330 Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr 345 Arg Val Asp Ala Val Cys Thr His Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Lys Leu Ser Gln Leu Thr His Gly 375 Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val 395 390 Asn Gly Phe Thr His Arg Ser Ser Met Pro Thr Thr Ser Thr Pro Gly 410 Thr Ser Thr Val Asp Val Gly Thr Ser Gly Thr Pro Ser Ser Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Met Pro Phe Thr Leu Asn Phe 440 Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr Gly Ser Arg Lys Phe Asn Thr Met Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys His Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr Leu Arg Leu Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu 520 Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser Val Thr Glu Leu 535 Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr 545 550 555 His Arg Ser Ser Val Pro Thr Thr Ser Ile Pro Gly Thr Ser Ala Val 565 570 His Leu Glu Thr Ser Gly Thr Pro Ala Ser Leu Pro Gly His Thr Ala 580 585 590

Pro Gly Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn

		595					600					605			
Leu	His 610	Tyr	Glu	Glu	Asn	Met 615	Gln	His	Pro	Gly	Ser 620	Arg	Lys	Phe	Asn
Thr 625	Met	Glu	Arg	Val	Leu 630	Gln	Gly	Cys	Leu	Val 635	Pro	Cys	Ser	Arg	Asn 640
Thr	Asn	Val	Gly	Leu 645	Leu	Tyr	Ser	Gly	Cys 650	Arg	Leu	Thr	Leu	Leu 655	Arg
Xaa	Glu	Lys	Xaa 660	Xaa	Ala	Ala	Thr	Xaa 665	Val	Asp	Xaa	Xaa	Cys 670	Xaa	Xaa
Xaa	Xaa	Asp 675	Pro	Xaa	Xaa	Pro	Gly 680	Leu	Asp	Arg	Glu	Xaa 685	Leu	Tyr	Trp
Glu	Leu 690	Ser	Xaa	Leu	Thr	Xaa 695	Xaa	Ile	Xaa	Glu	Leu 700	Gly	Pro	Tyr	Thr
Leu 705	Asp	Arg	Asn	Ser	Leu 710	Tyr	Val	Asn	Gly	Phe 715	Thr	His	Arg	Ser	Ser 720
Val	Ala	Pro	Thr	Ser 725	Thr	Pro	Gly	Thr	Ser 730	Thr	Val	Asp	Leu	Gly 735	Thr
Ser	Gly	Thr	Pro 740	Ser	Ser	Leu	Pro	Ser 745	Pro	Thr	Thr	Val	Pro 750	Leu	Leu
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Leu	Tyr	Ser	Gly	Cys 805	Arg	Leu	Ile	Ser	Leu 810	Arg	Ser	Glu	Lys	Asp 815	Gly
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<212> PRT

<213> Homo sapiens

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Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu Asp Pro Leu Asn 35 40 45

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr 50 55 60

Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp Arg Gly Ser Leu 65 70 75 80

Tyr Val Asn Gly Phe Thr His Arg Asn Phe Val Pro Ile Thr Ser Thr 85 90 95

Pro Gly Thr Ser Thr Val His Leu Gly Thr Ser Glu Thr Pro Ser Ser 100 105 110

Leu Pro Arg Pro Ile Val Pro Gly Pro Leu Leu Val Pro Phe Thr Leu 115 120 125

Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Ala Met Arg His Pro 130 135 140

Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu 145 150 155 160

Arg Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu Tyr Ser Gly Cys 165 170 175

Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr Arg Val

Asp Ala Ala Cys Thr Tyr Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp 195 200 205

Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His Ser Ile Thr 210 215 220

Glu Leu Gly Pro Tyr Thr Leu Asp Arg Val Ser Leu Tyr Val Asn Gly 225 230 235

Phe Asn Pro Arg Ser Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser 245 250 255

Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Ser Leu Pro Gly His 260 265 270

Thr Ala Pro Val Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile 275 280 285

Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg Lys 290 295 300

Phe Asn Thr Met Glu Arg Val Leu Gln Gly Leu Leu Arg Pro Leu Phe 305 310 315 320

Lys Asn Thr Ser Ile Gly Pro Leu Tyr Ser Ser Cys Arg Leu Thr Leu 325 330 335

Leu Arg Pro Glu Lys Asp Lys Ala Ala Thr Arg Val Asp Ala Ile Cys 340 345 350

Thr His His Pro Asp Pro Gln Ser Pro Gly Leu Asn Arg Glu Gln Leu 355 360 365

Tyr Trp Glu Leu Ser Gln Leu Thr His Gly Ile Thr Glu Leu Gly Pro 370 375 380

Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asp Gly Phe Thr His Trp 385 390 395 400

Ser Pro Ile Pro Thr Thr Ser Thr Pro Gly Thr Ser Ile Val Asn Leu 405 410 415

Gly Thr Ser Gly Ile Pro Pro Ser Leu Pro Glu Thr Thr Ala Thr Gly 420 425 430

Pro Leu Leu Ile Pro Phe Thr Pro Asn Phe Thr Ile Thr Asn Leu Gln 435 440 445

Tyr Glu Glu Asp Met Arg Arg Thr Gly Ser Arg Lys Phe Asn Thr Met 450 460

Glu Arg Val Leu Gln Gly Leu Leu Ser Pro Ile Phe Lys Asn Ser Ser 465 470 475 480

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu
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Ser Leu Pro Gly Pro Thr Ala Thr Gly Pro Val Leu Leu Pro Phe Thr

285

Pro Leu

Leu Asn Phe Thr Ile Ile Asn Leu Gln Tyr Glu Glu Asp Met His Arg 290 295 Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu 310 315 Leu Thr Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly 325 330 Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Gln Glu Ala Ala Thr Gly 345 Val Asp Thr Ile Cys Thr His Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn 395 390 Gly Phe Asn Pro Trp Ser Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Ser Leu Pro Gly His Thr Ala Pro Val Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr 440 Ile Thr Asn Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg 450 Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys His Gly Ala Ala Thr Gly Val Asp Ala Ile 505 Cys Thr His Arg Leu Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln 520 Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly 535 Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His 550 555 Trp Ile Pro Val Pro Thr Ser Ser Thr Pro Gly Thr Ser Thr Val Asp 565 570 Leu Gly Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr Thr Ala Gly 580 585 590

<210> 72

<211> 424

<212> PRT

<213> Homo sapiens

<400> 72

Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg
1 5 10 15

Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Tyr Thr His
20 25 30

Arg Leu Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln Leu Tyr Trp 35 40 45

Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr 50 55 60

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Gln Thr Ser 65 70 75 80

Ala Pro Asn Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Thr 85 90 95

Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr Ser Ala Gly Pro Leu 100 105 110

Leu Ile Pro Phe Thr Ile Asn Phe Thr Ile Thr Asn Leu Arg Tyr Glu 115 120 125

Glu Asn Met His His Pro Gly Ser Arg Lys Phe Asn Thr Met Glu Arg 130 135 140

Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly 145 150 155 160

Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp 165 170 175

Lys Ile Pro Gly Leu Asp Arg Gln Gln Leu Tyr Trp Glu Leu Ser Gln 195 200 205

Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp 210 215 220

Ser Leu Tyr Val Asn Gly Phe Thr Gln Arg Ser Ser Val Pro Thr Thr 225 230 235 240

Ser Thr Pro Gly Thr Phe Thr Val Gln Pro Glu Thr Ser Glu Thr Pro 245 250 255

Ser Ser Leu Pro Gly Pro Thr Ala Thr Gly Pro Val Leu Pro Phe 260 265 270

Thr Leu Asn Phe Thr Ile Ile Asn Leu Gln Tyr Glu Glu Asp Met His 275 280 285

Arg Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly 290 295 300

Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser 305 310 315 320

Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys His Gly Ala Ala Thr 325 330 335

Gly Val Asp Ala Ile Cys Thr Leu Arg Leu Asp Pro Thr Gly Pro Gly 340 345 350

Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser 355 360 365

Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val 370 375 380

Asn Gly Phe Asn Pro Trp Ser Ser Val Pro Thr Thr Ser Thr Pro Gly 385 390 395 400

Thr Ser Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Ser Leu Pro 405 410 415

Gly His Thr Ala Pro Val Pro Leu 420

<210> 73

<211> 286

<212> PRT

<213> Homo sapiens

<400> 73

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser 1 10 15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu 20 25 30

Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu 35 40 45

Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu 50 55 60

Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Pro 85 90 95

Thr Thr Ser Ile Pro Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly 100 105 110

Thr Pro Ala Ser Leu Pro Gly His Thr Ala Pro Gly Pro Leu Leu Val 115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp 130 135 140

Met Arg His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu 145 150 155 160

Gln Gly Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu
165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Arg Gly Ala 180 185 190

Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu Asp Pro Leu Asn 195 200 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr 210 215 220

Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp Arg Gly Ser Leu 225 230 235 240

Tyr Val Asn Gly Phe Thr His Arg Asn Phe Val Pro Ile Thr Ser Thr 245 250 255

Pro Gly Thr Ser Thr Val His Leu Gly Thr Ser Glu Thr Pro Ser Ser 260 265 270

Leu Pro Arg Pro Ile Val Pro Gly Pro Leu Leu Ile Pro Phe 275 280 285

<210> 74

<211> 286

<212> PRT

<213> Homo sapiens

<400> 74

Glu Arg Val Leu Gln Gly Leu Leu Arg Pro Val Phe Lys Asn Thr Ser $1 \hspace{1.5cm} 5 \hspace{1.5cm} 10 \hspace{1.5cm} 15$

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys

			20					25					30		
Lys	Asp	Gly 35	Ala	Ala	Thr	Lys	Val 40	Asp	Ala	Ile	Cys	Thr 45	Tyr	Arg	Pro
Asp	Pro 50	Lys	Ser	Pro	Gly	Leu 55	Asp	Arg	Glu	Gln	Leu 60	Tyr	Trp	Glu	Leu
Ser 65	Gln	Leu	Thr	His	Ser 70	Ile	Thr	Glu	Leu	Gly 75	Pro	Tyr	Thr	Leu	Asp 80
Arg	Asp	Ser	Leu	Tyr 85	Val	Asn	Gly	Phe	Thr 90	Gln	Arg	Ser	Ser	Val 95	Pro
Thr	Thr	Ser	Ile 100	Pro	Gly	Thr	Pro	Thr 105	Val	Asp	Leu	Gly	Thr 110	Ser	Gly
Thr	Pro	Val 115	Ser	Lys	Pro	Gly	Pro 120	Ser	Ala	Ala	Ser	Pro 125	Leu	Leu	Val
Pro	Phe 130	Thr	Leu	Asn	Phe	Thr 135	Ile	Thr	Asn	Leu	Gln 140	Tyr	Glu	Glu	Asp
Met 145	His	Arg	Pro	Gly	Ser 150	Arg	Lys	Phe	Asn	Ala 155	Thr	Glu	Arg	Val	Leu 160
Gln	Gly	Leu	Leu	Ser 165	Pro	Ile	Phe	Lys	Asn 170	Ser	Ser	Val	Gly	Pro 175	Leu
Tyr	Ser	Gly	Cys 180	Arg	Leu	Thr	Ser	Leu 185	Arg	Pro	Glu	Lys	Asp 190	Gly	Ala
Ala	Thr	Gly 195	Met	Asp	Ala	Val	Cys 200	Leu	Tyr	His	Pro	Asn 205	Pro	Lys	Arg
Pro	Gly 210	Leu	Asp	Arg	Glu	Gln 215	Leu	Tyr	Trp	Glu	Leu 220	Ser	Gln	Leu	Thr
His 225	Asn	Ile	Thr	Glu	Leu 230	Gly	Pro	Tyr	Ser	Leu 235	Asp	Arg	Asp	Ser	Leu 240
Tyr	Val	Asn	Gly	Phe 245	Thr	His	Gln	Ser	Ser 250	Met	Thr	Thr	Thr	Arg 255	Thr
Pro	Asp	Thr	Ser 260	Thr	Met	His	Leu	Ala 265	Thr	Ser	Arg	Thr	Pro 270	Ala	Ser
Leu	Ser	Gly 275	Pro	Thr	Thr	Ala	Ser 280	Pro	Leu	Leu	Ile	Pro 285	Phe		
<210)>	75													
<21	1>	286													
<212	2>	PRT													
<213	3>	Homo	sapi	iens											

<400> 75

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser 1 10 15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu 20 25 30

Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu $35 \hspace{1.5cm} 40 \hspace{1.5cm} 45$

Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu 50 55 60

Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp 70 75 80

Arg Gly Ser Leu Tyr Val Asn Gly Phe Ser Arg Gln Ser Ser Met Thr 85 90 95

Thr Thr Arg Thr Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser Arg
100 105 110

Thr Pro Ala Ser Leu Ser Gly Pro Thr Thr Ala Ser Pro Leu Leu Ile 115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn 130 135 140

Met Gly His Pro Gly Ser Arg Lys Phe Asn Ile Met Glu Arg Val Leu 145 150 155 160

Gln Gly Leu Leu Asn Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu 165 170 175

Tyr Ser Gly Cys Arg Leu Thr Ser Leu Lys Pro Glu Lys Asp Gly Ala 180 185 190

Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg 195 200 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr 210 215 220

His Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu 225 230 235 240

Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Ala Pro Thr Ser Thr 245 250 255

Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Ser 260 265 270

Leu Pro Ser Pro Thr Thr Ala Val Pro Leu Leu Ile Pro Phe 275 280 285

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<210> 76
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<211> 286

<212> PRT

<213> Homo sapiens

<400> 76

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Arg Asn Ser Ser 1 10 15

Leu Glu Tyr Leu Tyr Ser Gly Cys Arg Leu Ala Ser Leu Arg Pro Glu 20 25 30

Lys Asp Ser Ser Ala Met Ala Val Asp Ala Ile Cys Thr His Arg Pro 35 40 45

Asp Pro Glu Asp Leu Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu 50 60

Ser Asn Leu Thr Asn Gly Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp 65 70 75 80

Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Gly Leu 85 90 95

Thr Thr Ser Thr Pro Trp Thr Ser Thr Val Asp Leu Gly Thr Ser Gly 100 105 110

Thr Pro Ser Pro Val Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Ile 115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn 130 135 140

Met Gly His Pro Gly Ser Arg Lys Phe Asn Ile Met Glu Arg Val Leu 145 150 155 160

Gln Gly Leu Leu Met Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu 165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala 180 185 190

Ala Thr Arg Val Asp Ala Val Cys Thr Gln Arg Pro Asp Pro Lys Ser 195 200 205

Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Lys Leu Ser Gln Leu Thr 210 215 220

His Gly Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg His Ser Leu 225 230 235 240

Tyr Val Asn Gly Leu Thr His Gln Ser Ser Met Thr Thr Arg Thr 245 250 255

Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser Arg Thr Pro Ala Ser 260 265 270

Leu Ser Gly Pro Thr Thr Ala Ser Pro Leu Leu Ile Pro Phe 275 280 285

<210> 77

<211> 288

<212> PRT

<213> Homo sapiens

<400> 77

Glu Arg Val Leu Gln Gly Leu Leu Ser Pro Ile Ser Lys Asn Ser Ser 1 5 10 15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu 20 25 30

Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro $35 \hspace{1cm} 40 \hspace{1cm} 45$

Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu 50 55 60

Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro 85 90 95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly 100 105 110

Thr Pro Ser Ser Phe Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile 115 120 125

Pro Phe Thr Val Asn Phe Thr Ile Thr Asn Leu Arg Tyr Glu Glu Asn 130 135 140

Met His His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu 145 150 155 160

Gln Gly Leu Leu Arg Pro Val Phe Lys Asn Thr Ser Val Gly Pro Leu 165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala

Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr Arg Pro Asp Pro Lys Ser 195 200 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr

215 220 210 Asn Asp Ile Glu Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu 230 235 Tyr Val Asn Gly Phe Thr His Gln Ser Ser Val Ser Thr Thr Ser Thr 245 250 Pro Gly Thr Ser Thr Val Asp Leu Arg Thr Ser Gly Thr Pro Ser Ser 260 265 Leu Ser Ser Pro Thr Ile Met Ala Ala Gly Pro Leu Leu Ile Pro Phe 280 285 <210> 78 597 <211> <212> PRT <213> Homo sapiens <400> 78 Glu Arg Val Leu His Gly Leu Leu Thr Pro Leu Phe Lys Asn Thr Arg 10 Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu 25 Lys Gln Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Trp Ser Ser Val Pro 85 Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Ser Leu Pro Gly His Thr Ala Pro Val Pro Leu Leu Ile 115 120 Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu His Tyr Glu Glu Asn 135 Met Gln His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu 145 150 155 Gln Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu

170

175

Tyr Ser Gly Cys Arg Leu Thr Leu Phe Lys Pro Glu Lys His Glu Ala Ala Thr Gly Val Asp Ala Ile Cys Thr Leu Arg Leu Asp Pro Thr Gly 200 Pro Gly Leu Asp Arg Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn 215 Ser Val Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr 230 235 Val Asn Gly Phe Thr His Arg Ser Ser Val Pro Thr Thr Ser Ile Pro 250 Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly Thr Pro Ala Ser Leu Pro Gly His Thr Ala Pro Gly Pro Leu Leu Ile Pro Phe Thr Leu Asn 280 Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr Gly Ser Arg Lys Phe Asn Thr Met Glu Arg Val Leu Gln Gly Leu Leu Lys 310 315 Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Arg Gly Ala Ala Thr Gly Val Asp 345 Thr Ile Cys Thr His Arg Leu Asp Pro Leu Asn Pro Gly Leu Asp Arg 360 Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp Arg Gly Ser Leu Tyr Val Asn Gly Phe Thr His Arg Asn Phe Val Pro Ile Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Gly Thr Ser Glu Thr Pro Ser Ser Leu Pro Arg Pro Ile 420 425 Val Pro Gly Pro Leu Leu Ile Pro Phe Thr Ile Asn Phe Thr Ile Thr 440 Asn Leu Arg Tyr Glu Glu Asn Met His His Pro Gly Ser Arg Lys Phe 450 455 Asn Ile Met Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Leu Phe Lys 470 Asn Ser Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Ile Ser Leu

490

Arg Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr 500 505 510

His His Leu Asn Pro Gln Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr 515 520 525

Trp Gln Leu Ser Gln Met Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr 530 535 540

Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser 545 550 555 560

Ser Gly Leu Thr Thr Ser Thr Pro Trp Thr Ser Thr Val Asp Leu Gly 565 570 575

Thr Ser Gly Thr Pro Ser Pro Val Pro Ser Pro Thr Thr Ala Gly Pro 580 585 590

Leu Leu Ile Pro Phe 595

<210> 79

<211> 420

<212> PRT

<213> Homo sapiens

<400> 79

Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys
1 10 15

Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn 20 25 30

Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser 35 40 45

Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp Arg 50 55 60

Asp Ser Leu Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro Thr 65 70 75 80

Thr Ser Thr Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly Thr 85 90 95

Pro Ser Ser Phe Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile Pro

Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn Met 115 120 125

Gly His Pro Gly Ser Arg Lys Phe Asn Ile Thr Glu Ser Val Leu Gln

	130					135					140				
Gly 145	Leu	Leu	Thr	Pro	Leu 150	Phe	Lys	Asn	Ser	Ser 155	Val	Gly	Pro	Leu	Tyr 160
Ser	Gly	Cys	Arg	Leu 165	Ile	Ser	Leu	Arg	Ser 170	Glu	Lys	Asp	Gly	Ala 175	Ala
Thr	Gly	Val	Asp 180	Ala	Ile	Cys	Thr	His 185	His	Leu	Asn	Pro	Gln 190	Ser	Pro
Gly	Leu	Asp 195	Arg	Glu	Gln	Leu	Tyr 200	Trp	Gln	Leu	Ser	Gln 205	Met	Thr	Asn
Gly	Ile 210	Lys	Glu	Leu	Gly	Pro 215	Tyr	Thr	Leu	Asp	Arg 220	Asp	Ser	Leu	Tyr
Val 225	Asn	Gly	Phe	Thr	His 230	Arg	Ser	Leu	Gly	Leu 235	Thr	Thr	Ser	Thr	Pro 240
Trp	Thr	Ser	Thr	Val 245	Asp	Leu	Gly	Thr	Ser 250	Gly	Thr	Pro	Ser	Pro 255	Val
Pro	Ser	Pro	Thr 260	Thr	Ala	Gly	Pro	Leu 265	Leu	Ile	Pro	Phe	Thr 270	Leu	Asn
Phe	Thr	Ile 275	Thr	Asn	Leu	Gln	Tyr 280	Glu	Glu	Asn	Met	Gly 285	His	Pro	Gly
Ser	Arg 290	Lys	Phe	Asn	Ile	Met 295	Glu	Arg	Val	Leu	Gln 300	Gly	Leu	Leu	Arg
Pro 305	Val	Phe	Lys	Asn	Thr 310	Ser	Val	Gly	Pro	Leu 315	Tyr	Ser	Gly	Cys	Arg 320
Leu	Thr	Leu	Leu	Arg 325	Pro	Lys	Lys	Asp	Gly 330	Ala	Ala	Thr	Lys	Val 335	Asp
Ala	Ile	Cys	Thr 340	Tyr	Arg	Pro	Asp	Pro 345	Lys	Ser	Pro	Gly	Leu 350	Asp	Arg
Glu	Gln	Leu 355	Tyr	Trp	Glu	Leu	Ser 360	Gln	Leu	Thr	His	Ser 365	Ile	Thr	Glu
Leu	Gly 370	Pro	Tyr	Thr	Leu	Asp 375	Arg	Asp	Ser	Leu	Tyr 380	Val	Asn	Gly	Phe
Thr 385	Gln	Arg	Ser	Ser	Val 390	Pro	Thr	Thr	Ser	Ile 395	Pro	Gly	Thr	Pro	Thr 400
Val	Asp	Leu	Gly	Thr 405	Ser	Gly	Thr	Pro	Val 410	Ser	Lys	Pro	Gly	Pro 415	Ser
Ala	Ala	Ser	Pro 420												
<210)> (30													

<211> 479

<212> PRT

<213> Homo sapiens

<400> 80

Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr Asn Asp Ile Glu Glu Leu 1 5 10 15

Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr 20 25 30

His Gln Ser Ser Val Ser Thr Thr Ser Thr Pro Gly Thr Ser Thr Val 35 40 45

Asp Leu Arg Thr Ser Gly Thr Pro Ser Ser Leu Ser Ser Pro Thr Ile 50 55 60

Met Ala Ala Gly Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile 65 70 75 80

Thr Asn Leu Gln Tyr Glu Glu Asn Met Gly His Pro Gly Ser Arg Lys
85 90 95

Phe Asn Ile Met Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Met Phe $100 \,$ $105 \,$ $110 \,$

Lys Asn Thr Ser Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu 115 120 125

Leu Arg Pro Glu Lys Asn Gly Ala Ala Thr Gly Met Asp Ala Ile Cys 130 135 140

Ser His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu 145 150 155 160

Tyr Trp Glu Leu Ser Gln Leu Thr His Gly Ile Lys Glu Leu Gly Pro 165 170 175

Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg 180 185 190

Ser Ser Val Ala Pro Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu 195 200 205

Gly Thr Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr Thr Ala Val 210 215 220

Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Lys 225 230 235 240

Tyr Glu Glu Asp Met His Cys Pro Gly Ser Arg Lys Phe Asn Thr Thr
245 250 255

Glu Arg Val Leu Gln Ser Leu Phe Gly Pro Met Phe Lys Asn Thr Ser

			260					265					270				
Val	Gly	Pro 275	Leu	Tyr	Ser	Gly	Cys 280	Arg	Leu	Thr	Leu	Leu 285	Arg	Ser	Glu		
Lys	Asp 290	Gly	Ala	Ala	Thr	Gly 295	Val	Asp	Ala	Ile	Cys 300	Thr	His	Arg	Leu		
Asp 305	Pro	Lys	Ser	Leu	Gly 310	Val	Asp	Arg	Glu	Gln 315	Leu	Tyr	Trp	Glu	Leu 320		
Ser	Gln	Leu	Thr	Asn 325	Gly	Ile	Lys	Glu	Leu 330	Gly	Pro	Tyr	Thr	Leu 335	Asp		
Arg	Asn	Ser	Leu 340	Tyr	Val	Asn	Gly	Phe 345	Thr	His	Gln	Thr	Ser 350	Ala	Pro		
Asn	Thr	Ser 355	Thr	Pro	Gly	Thr	Ser 360	Thr	Val	Asp	Leu	Gly 365	Thr	Ser	Gly		
Thr	Pro 370	Ser	Ser	Leu	Pro	Ser 375	Pro	Thr	Ser	Ala	Gly 380	Pro	Leu	Leu	Val		
Pro 385	Phe	Thr	Leu	Asn	Phe 390	Thr	Ile	Thr	Asn	Leu 395	Gln	Tyr	Glu	Glu	Asp 400		
Met	Arg	Arg	Thr	Gly 405	Ser	Arg	Lys	Phe	Asn 410	Thr	Met	Glu	Ser	Val 415	Leu		
Gln	Gly	Leu	Leu 420	Lys	Pro	Leu	Phe	Lys 425	Asn	Thr	Ser	Val	Gly 430	Pro	Leu		
Tyr	Ser	Gly 435	Cys	Arg	Leu	Thr	Leu 440	Leu	Arg	Pro	Glu	Lys 445	Asp	Gly	Ala		
Ala	Thr 450	Gly	Val	Asp	Ala	Ile 455	Cys	Thr	His	Arg	Leu 460	Asp	Pro	Lys	Ser		
Pro 465	Gly	Leu	Asn	Arg	Glu 470	Gln	Leu	Tyr	Trp	Glu 475	Leu	Ser	Lys	Leu			
<21	0> 8	31															
<21	1> 5	5465															
<21	2> I	ANC															
<21	3> I	Homo	sapi	iens													
<40 cag		31 cgt t	tgago	ctgg	ga ad	cagto	gacaa	a gto	gctta	atca	agtt	cctt	ca (ctctc	caacac		60
ggt [.]	tgaca	aag a	aacto	gatg	gc at	tato	ggaad	c aca	atcad	caaa	aata	accca	aat o	gaago	cagcac	1	120
aca	gaggt	tac o	cataa	agaco	ca gt	caaa	aggco	c cto	cagad	catc	cact	tcg	cct (gccaç	gtccta	1	180

aaggactaca cacaggaggg acaaaaagaa tggagaccac caccacagct ttgaagacca

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Homo sapiens

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Asn Ser Ser Leu Glu Tyr Leu Tyr Ser Gly Cys Arg Leu Ala Ser Leu

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Arg Pro Glu Lys Asp Ser Ser Ala Met Ala Val Asp Ala Ile Cys Thr 75 His Arg Pro Asp Pro Glu Asp Leu Gly Leu Asp Arg Glu Arg Leu Tyr 90 Trp Glu Leu Ser Asn Leu Thr Asn Gly Ile Gln Glu Leu Gly Pro Tyr 100 105 Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Met Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Val Gly 135 Thr Ser Gly Thr Pro Ser Ser Ser Pro Ser Pro Thr Ala Ala Gly Pro 150 155 Leu Leu Met Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr 165 170 Glu Glu Asp Met Arg Arg Thr Gly Ser Arg Lys Phe Asn Thr Met Glu 185 Ser Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr Asn Asp Ile Glu Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Gln Ser Ser Val Ser Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Arg Thr Ser Gly Thr 295 Pro Ser Ser Leu Ser Ser Pro Thr Ile Met Ala Ala Gly Pro Leu Leu 310 315 Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Gly Glu 325 330 Asp Met Gly His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val 340 345 Leu Gln Gly Leu Leu Gly Pro Ile Phe Lys Asn Thr Ser Val Gly Pro 360 365 Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Ser Glu Lys Asp Gly

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Leu	Tyr	Val 435	Asn	Gly	Phe	Thr	His 440	Arg	Thr	Ser	Val	Pro 445	Thr	Ser	Ser
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Cys	Arg 530	Leu	Thr	Leu	Leu	Arg 535	Ser	Glu	Lys	Asp	Gly 540	Ala	Ala	Thr	Gly
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Phe	Asn	Thr	Thr 660	Glu	Arg	Val	Leu	Gln 665	Gly	Leù	Leu	Gly	Pro 670	Met	Phe
Lys	Asn	Thr 675	Ser	Val	Gly	Leu	Leu 680	Tyr	Ser	Gly	Cys	Arg 685	Leu	Thr	Leu

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Leu Arg Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys 695 Thr His Arg Leu Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln Leu 710 Tyr Trp Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro 730 725 Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Gln 745 740 Thr Ser Ala Pro Asn Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu 760 Gly Thr Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr Ser Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln 790 795 Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg Lys Phe Asn Thr Thr 805 810 Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser 825 Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Ser Glu 840 Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu 855 Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Gln Thr Ser Ala Pro Asn Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr Ser Ala Gly Pro Leu Leu Val 930 935 940 Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp 955 950 Met His His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu 965 970 Gln Gly Leu Leu Gly Pro Met Phe Lys Asn Thr Ser Val Gly Leu Leu 980 985 Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asn Gly Ala

1000

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Gly	Thr 1085	Pro	Ser	Ser	Leu	Pro 1090	Ser	Pro	Thr	Thr	Ala 1095	Val	Pro	Leu
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,	Leu 2090				_	2095					Ala 2100			
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Ile	Cys 2420		His	Arg	Leu	Asp 2425		Lys	Ser	Pro	Gly 2430		Asn	Arg
Glu	Gln 2435		Tyr	Trp	Glu	Leu 2440		Lys	Leu	Thr	Asn 2445	Asp	Ile	Glu
Glu	Leu 2450		Pro	Tyr	Thr	Leu 2455		Arg	Asn	Ser	Leu 2460	Tyr	· Val	Asn
Gly	Phe 2465		His	Gln	Ser	Ser 2470		Ser	Thr	Thr	Ser 2475		Pro	Gly

Thr	Ser 2480	Thr	Val	Asp	Leu	Arg 2485	Thr	Ser	Gly	Thr	Pro 2490	Ser	Ser	Leu
Ser	Ser 2495	Pro	Thr	Ile	Met	Xaa 2500	Xaa	Xaa	Pro	Leu	Leu 2505	Xaa	Pro	Phe
Thr	Leu 2510	Asn	Phe	Thr	Ile	Thr 2515	Asn	Leu	Xaa	Tyr	Glu 2520	Glu	Xaa	Met
Xaa	Xaa 2525	Pro	Gly	Ser	Arg	Lys 2530	Phe	Asn	Thr	Thr	Glu 2535	Arg	Val	Leu
Gln	Gly 2540	Leu	Leu	Arg	Pro	Leu 2545	Phe	Lys	Asn	Thr	Ser 2550	Val	Ser	Ser
Leu	Tyr 2555		Gly	Cys	Arg	Leu 2560	Thr	Leu	Leu	Arg	Pro 2565	Glu	Lys	Asp
Gly	Ala 2570		Thr	Arg	Val	Asp 2575	Ala	Ala	Cys	Thr	Tyr 2580	Arg	Pro	Asp
Pro	Lys 2585		Pro	Gly	Leu	Asp 2590		Glu	Gln	Leu	Tyr 2595	Trp	Glu	Leu
Ser	Gln 2600		Thr	His	Ser	Ile 2605		Glu	Leu	Gly	Pro 2610	Tyr	Thr	Leu
Asp	Arg 2615		Ser	Leu	Tyr	Val 2620		Gly	Phe	Asn	Pro 2625	Arg	Ser	Ser
Val	Pro 2630		Thr	Ser	Thr	Pro 2635		Thr	Ser	Thr	Val 2640	His	Leu	Ala
Thr	Ser 2645		Thr	Pro	Ser	Ser 2650		Pro	Gly	His	Thr 2655	Ala	Pro	Val
Pro	Leu 2660		Ile	Pro	Phe	Thr 2665		Asn	Phe	Thr	Ile 2670	Thr	Asn	Leu
His	Tyr 2675			Asn		Gln 2680		Pro			Arg 2685	Lys	Phe	Asn
Thr	Thr 2690		Arg	Val	Leu	Gln 2695		Leu	Leu	Arg	Pro 2700	Leu	Phe	Lys
Ser	Thr 2705		· Val	. Gly	Pro	Leu 2710		Ser	Gly	Cys	Arg 2715		Thr	Leu
Leu	Arg 2720		Glu	ı Lys	His	Gly 2725		Ala	Thr	Gly	Val 2730		Ala	Ile
Cys	Thr 2735		ı Arç	g Leu	Asp	Pro 2740		Gly	Pro	Gly	Leu 2745		Arg	ß Glu
Arç	Leu 2750		Trp	o Glu	. Leu	Ser 2755		Leu	Thr	Asn	Ser 2760		Thr	Glu
Leu	Gly 2765		туг	Thr	Leu	1 Asp 2770		Asp	Ser	Leu	Tyr 2775		Asn	n Gly

Ph∈	2780	Gln	Arg	g Ser	Ser	Val 2785		Thr	Thr	s Ser	: Ile 2790	Pro	o Gly	/ Thr
Ser	Ala 2795	Val	. His	: Leu	Glu	Thr 2800		Gly	Thr	Pro	Ala 2805		Leu	ı Pro
Gly	His 2810	Thr	Ala	Pro	Gly	Pro 2815		ı Lev	val	. Pro	Phe 2820		Leu	Asn
Phe	Thr 2825	Ile	Thr	Asn	Leu	Gln 2830		Glu	ı Val	. Asp	Met 2835		His	Pro
Gly	Ser 2840		Lys	Phe	Asn	Thr 2845		Glu	Arg	y Val	Leu 2850		Gly	Leu
Leu	Lys 2855	Pro	Leu	Phe	Lys	Ser 2860		Ser	Val	Gly	Pro 2865		Tyr	Ser
Gly	Cys 2870	Arg	Leu	Thr	Leu	Leu 2875		Pro	Glu	Lys	Arg 2880		Ala	Ala
Thr	Gly 2885	Val	Asp	Thr	Ile	Cys 2890		His	Arg	Leu	Asp 2895		Leu	Asn
Pro	Gly 2900	Leu	Asp	Arg	Glu	Gln 2905	Leu	Tyr	Trp	Glu	Leu 2910		Lys	Leu
Thr	Arg 2915	Gly	Ile	Ile	Glu	Leu 2920		Pro	Tyr	Leu	Leu 2925		Arg	Gly
Ser	Leu 2930	Tyr	Val	Asn	Gly	Phe 2935		His	Arg	Asn	Phe 2940		Pro	Ile
Thr	Ser 2945	Thr	Pro	Gly	Thr	Ser 2950	Thr	Val	His	Leu	Gly 2955	Thr	Ser	Glu
Thr	Pro 2960	Ser	Ser	Leu	Pro	Arg 2965	Pro	Ile	Val	Pro	Gly 2970	Pro	Leu	Leu
Val	Pro 2975	Phe	Thr	Leu	Asn	Phe 2980		Ile	Thr	Asn	Leu 2985	Gln	Tyr	Glu
Glu	Ala 2990	Met	Arg	His	Pro	Gly 2995	Ser	Arg	Lys	Phe	Asn 3000	Thr	Thr	Glu
Arg	Val 3005	Leu	Gln	Gly	Leu	Leu 3010	Arg	Pro	Leu	Phe	Lys 3015	Asn	Thr	Ser
Ile	Gly 3020	Pro	Leu	Tyr	Ser	Ser 3025	Cys	Arg	Leu	Thr	Leu 3030	Leu	Arg	Pro
Glu	Lys 3035	Asp	Lys	Ala	Ala	Thr 3040	Arg	Val	Asp	Ala	Ile 3045	Cys	Thr	His
His	Pro 3050	Asp	Pro	Gln	Ser	Pro 3055	Gly	Leu	Asn	Arg	Glu 3060	Gln	Leu	Tyr
Trp	Glu	Leu	Ser	Gln	Leu	Thr	His	Gly	Ile	Thr	Glu	Leu	Gly	Pro

	3065					3070					3075			
Tyr	Thr 3080	Leu	Asp	Arg	Asp	Ser 3085	Leu	Tyr	Val	Asp	Gly 3090	Phe	Thr	His
Trp	Ser 3095	Pro	Ile	Pro	Thr	Thr 3100	Ser	Thr	Pro	Gly	Thr 3105	Ser	Ile	Val
Asn	Leu 3110	Gly	Thr	Ser	Gly	Ile 3115	Pro	Pro	Ser	Leu	Pro 3120	Glu	Thr	Thr
Xaa	Xaa 3125	Xaa	Pro	Leu	Leu	Xaa 3130	Pro	Phe	Thr	Leu	Asn 3135	Phe	Thr	Ile
Thr	Asn 3140	Leu	Xaa	Tyr	Glu	Glu 3145		Met	Xaa	Xaa	Pro 3150	_	Ser	Arg
Lys	Phe 3155	Asn	Thr	Thr	Glu	Arg 3160	Val	Leu	Gln	Gly	Leu 3165	Leu	Lys	Pro
Leu	Phe 3170		Asn	Ser	Ser	Leu 3175	Glu	Tyr	Leu	Tyr	Ser 3180	Gly	Cys	Arg
Leu	Ala 3185		Leu	Arg	Pro	Glu 3190	Lys	Asp	Ser	Ser	Ala 3195	Met	Ala	Val
Asp	Ala 3200	Ile	Cys	Thr	His	Arg 3205	Pro	Asp	Pro	Glu	Asp 3210	Leu	Gly	Leu
Asp	Arg 3215	Glu	Arg	Leu	Tyr	Trp 3220	Glu	Leu	Ser	Asn	Leu 3225	Thr	Asn	Gly
Ile	Gln 3230	Glu	Leu	Gly	Pro	Tyr 3235	Thr	Leu	Asp	Arg	Asn 3240	Ser	Leu	Tyr
Val	Asn 3245	Gly	Phe	Thr	His	Arg 3250	Ser	Ser	Phe	Leu	Thr 3255	Thr	Ser	Thr
Pro	Trp 3260	Thr	Ser	Thr	Val	Asp 3265	Leu	Gly	Thr	Ser	Gly 3270	Thr	Pro	Ser
Pro	Val 3275	Pro	Ser	Pro	Thr	Thr 3280	Ala	Gly	Pro	Leu	Leu 3285	Val	Pro	Phe
Thr	Leu 3290	Asn	Phe	Thr	Ile	Thr 3295	Asn	Leu	Gln	Tyr	Glu 3300	Glu	Asp	Met
His	Arg 3305	Pro	Gly	Ser	Arg	Arg 3310	Phe	Asn	Thr	Thr	Glu 3315	Arg	Val	Leu
Gln	Gly 3320	Leu	Leu	Thr	Pro	Leu 3325	Phe	Lys	Asn	Thr	Ser 3330	Val	Gly	Pro
Leu	Tyr 3335	Ser	Gly	Cys	Arg	Leu 3340	Thr	Leu	Leu	Arg	Pro 3345	Glu	Lys	Gln
Glu	Ala 3350	Ala	Thr	Gly	Val	Asp 3355	Thr	Ile	Cys	Thr	His 3360	Arg	Val	Asp

Pro	Ile 3365	Gly	Pro	Gly	Leu	Asp 3370	Arg	Glu	Arg	Leu	Tyr 3375	Trp	Glu	Leu
Ser	Gln 3380	Leu	Thr	Asn	Ser	Ile 3385	Thr	Glu	Leu	Gly	Pro 3390	Tyr	Thr	Leu
Asp	Arg 3395	Asp	Ser	Leu	Tyr	Val 3400	Asn	Gly	Phe	Asn	Pro 3405	Trp	Ser	Ser
Val	Pro 3410	Thr	Thr	Ser	Thr	Pro 3415	Gly	Thr	Ser	Thr	Val 3420	His	Leu	Ala
Thr	Ser 3425	Gly	Thr	Pro	Ser	Ser 3430	Leu	Pro	Gly	His	Thr 3435	Ala	Pro	Val
Pro	Leu 3440	Leu	Ile	Pro	Phe	Thr 3445	Leu	Asn	Phe	Thr	Ile 3450	Thr	Asp	Leu
His	Tyr 3455	Glu	Glu	Asn	Met	Gln 3460	His	Pro	Gly	Ser	Arg 3465	Lys	Phe	Asn
Thr	Thr 3470	Glu	Arg	Val	Leu	Gln 3475	Gly	Leu	Leu	Lys	Pro 3480	Leu	Phe	Lys
Ser	Thr 3485	Ser	Val	Gly	Pro	Leu 3490	Tyr	Ser	Gly	Cys	Arg 3495	Leu	Thr	Leu
Leu	Arg 3500	Pro	Glu	Lys	His	Gly 3505	Ala	Ala	Thr	Gly	Val 3510	Asp	Ala	Ile
Cys	Thr 3515	Leu	Arg	Leu	Asp	Pro 3520	Thr	Gly	Pro	Gly	Leu 3525	Asp	Arg	Glu
Arg	Leu 3530	Tyr	Trp	Glu	Leu	Ser 3535	Gln	Leu	Thr	Asn	Ser 3540	Val	Thr	Glu
Leu	Gly 3545	Pro	Tyr	Thr	Leu	Asp 3550	Arg	Asp	Ser	Leu	Tyr 3555	Val	Asn	Gly
Phe	Thr 3560	His	Arg	Ser	Ser	Val 3565	Pro	Thr	Thr	Ser	Ile 3570	Pro	Gly	Thr
Ser	Ala 3575	Val	His	Leu	Glu	Thr 3580	Ser	Gly	Thr	Pro	Ala 3585	Ser	Leu	Pro
Gly	His 3590	Thr	Ala	Pro	Gly	Pro 3595	Leu	Leu	Val	Pro	Phe 3600	Thr	Leu	Asn
Phe	Thr 3605	Ile	Thr	Asn	Leu	Gln 3610	Tyr	Glu	Glu	Asp	Met 3615	Arg	His	Pro
Gly	Ser	Arg	Lys	Phe	Ser	Thr 3625	Thr	Glu	Arg	Val	Leu 3630	Gln	Gly	Leu
	3620					0020								
Leu	Lys 3635	Pro	Leu	Phe	Lys		Thr	Ser	Val	Ser	Ser 3645	Leu	Tyr	Ser

Thr	Arg 3665	Val	Asp	Ala	Val	Cys 3670		His	Arg	Pro	Asp 3675		Lys	Ser
Pro	Gly 3680	Leu	Asp	Arg	Glu	Arg 3685		Tyr	Trp	Lys	Leu 3690		Gln	Leu
Thr	His 3695	Gly	Ile	Thr	Glu	Leu 3700	Gly	Pro	Tyr	Thr	Leu 3705	Asp	Arg	His
Ser	Leu 3710	Tyr	Val	Asn	Gly	Phe 3715	Thr	His	Gln	Ser	Ser 3720	Met	Thr	Thr
Thr	Arg 3725	Thr	Pro	Asp	Thr	Ser 3730		Met	His	Leu	Ala 3735		Ser	Arg
Thr	Pro 3740	Ala	Ser	Leu	Ser	Gly 3745	Pro	Thr	Thr	Ala	Ser 3750	Pro	Leu	Leu
Val	Leu 3755	Phe	Thr	Ile	Asn	Phe 3760		Ile	Thr	Asn	Gln 3765	Arg	Tyr	Glu
Glu	Asn 3770	Met	His	His	Pro	Gly 3775	Ser	Arg	Lys	Phe	Asn 3780	Thr	Thr	Glu
Arg	Val 3785	Leu	Gln	Gly	Leu	Leu 3790	Arg	Pro	Val	Phe	Lys 3795	Asn	Thr	Ser
Val	Gly 3800	Pro	Leu	Tyr	Ser	Gly 3805	Cys	Arg	Leu	Thr	Leu 3810	Leu	Arg	Pro
Lys	Lys 3815	Asp	Gly	Ala	Ala	Thr 3820	Lys	Val	Asp	Ala	Ile 3825	Cys	Thr	Tyr
Arg	Pro 3830	Asp	Pro	Lys	Ser	Pro 3835	Gly	Leu	Asp	Arg	Glu 3840	Gln	Leu	Tyr
Trp	Glu 3845	Leu	Ser	Gln	Leu	Thr 3850	His	Ser	Ile	Thr	Glu 3855	Leu	Gly	Pro
Tyr	Thr 3860	Gln	Asp	Arg	Asp	Ser 3865	Leu	Tyr	Val	Asn	Gly 3870	Phe	Thr	His
Arg	Ser 3875	Ser	Val	Pro	Thr	Thr 3880	Ser	Ile	Pro	Gly	Thr 3885	Ser	Ala	Val
His	Leu 3890	Glu	Thr	Ser	Gly	Thr 3895	Pro	Ala	Ser	Leu	Pro 3900	Gly	His	Thr
Ala	Pro 3905	Gly	Pro	Leu	Leu	Val 3910	Pro	Phe	Thr	Leu	Asn 3915	Phe	Thr	Ile
Thr	Asn 3920	Leu	Gln	Tyr	Glu	Glu 3925	Asp	Met	Arg	His	Pro 3930	Gly	Ser	Arg
Lys	Phe 3935	Asn	Thr	Thr	Glu	Arg 3940	Val	Leu	Gln	Gly	Leu 3945	Leu	Lys	Pro
Leu	Phe	Lys	Ser	Thr	Ser	Val	Gly	Pro	Leu	Tyr	Ser	Gly	Cys	Arg

	3950					3955					3960			
Leu	Thr 3965	Leu	Leu	Arg	Pro	Glu 3970	Lys	Arg	Gly	Ala	Ala 3975	Thr	Gly	Val
Asp	Thr 3980	Ile	Cys	Thr	His	Arg 3985		Asp	Pro	Leu	Asn 3990	Pro	Gly	Leu
Asp	Arg 3995	Glu	Gln	Leu	Tyr	Trp 4000	Glu	Leu	Ser	Lys	Leu 4005	Thr	Arg	Gly
Ile	Ile 4010	Glu	Leu	Gly	Pro	Tyr 4015	Leu	Leu	Asp	Arg	Gly 4020	Ser	Leu	Tyr
Val	Asn 4025	Gly	Phe	Thr	His	Arg 4030	Thr	Ser	Val	Pro	Thr 4035	Thr	Ser	Thr
Pro	Gly 4040	Thr	Ser	Thr	Val	Asp 4045	Leu	Gly	Thr	Ser	Gly 4050	Thr	Pro	Phe
Ser	Leu 4055	Pro	Ser	Pro	Ala	Xaa 4060	Xaa	Xaa	Pro	Leu	Leu 4065	Xaa	Pro	Phe
Thr	Leu 4070	Asn	Phe	Thr	Ile	Thr 4075	Asn	Leu	Xaa	Tyr	Glu 4080	Glu	Xaa	Met
Xaa	Xaa 4085	Pro	Gly	Ser	Arg	Lys 4090	Phe	Asn	Thr	Thr	Glu 4095	Arg	Val	Leu
Gln	Thr 4100	Leu	Leu	Gly	Pro	Met 4105	Phe	Lys	Asn	Thr	Ser 4110	Val	Gly	Leu
Leu	Tyr 4115	Ser	Gly	Cys	Arg	Leu 4120	Thr	Leu	Leu	Arg	Ser 4125	Glu	Lys	Asp
Gly	Ala 4130	Ala	Thr	Gly	Val	Asp 4135	Ala	Ile	Cys	Thr	His 4140	Arg	Leu	Asp
Pro	Lys 4145	Ser	Pro	Gly	Val	Asp 4150	Arg	Glu	Gln	Leu	Tyr 4155	Trp	Glu	Leu
Ser	Gln 4160	Leu	Thr	Asn	Gly	Ile 4165	Lys	Glu	Leu	Gly	Pro 4170	Tyr	Thr	Leu
Asp	Arg 4175	Asn	Ser	Leu	Tyr	Val 4180	Asn	Gly	Phe	Thr	His 4185	Trp	Ile	Pro
Val	Pro 4190	Thr	Ser	Ser	Thr	Pro 4195	Gly	Thr	Ser	Thr	Val 4200	Asp	Leu	Gly
Ser	Gly 4205	Thr	Pro	Ser	Leu	Pro 4210	Ser	Ser	Pro	Thr	Thr 4215	Ala	Gly	Pro
Leu	Leu 4220	Val	Pro	Phe	Thr	Leu 4225	Asn	Phe	Thr	Ile	Thr 4230	Asn	Leu	Lys
Tyr	Glu 4235	Glu	Asp	Met	His	Cys 4240	Pro	Gly	Ser	Arg	Lys 4245	Phe	Asn	Thr

Thr	Glu 4250	Arg	Val	Leu	Gln	Ser 4255	Leu	Leu	Gly	Pro	Met 4260	Phe	Lys	Asn
Thr	Ser 4265	Val	Gly	Pro	Leu	Tyr 4270	Ser	Gly	Cys	Arg	Leu 4275	Thr	Leu	Leu
Arg	Ser 4280	Glu	Lys	Asp	Gly	Ala 4285	Ala	Thr	Gly	Val	Asp 4290	Ala	Ile	Cys
Thr	His 4295	Arg	Leu	Asp	Pro	Lys 4300	Ser	Pro	Gly	Val	Asp 4305	Arg	Glu	Gln
Leu	Tyr 4310	Trp	Glu	Leu	Ser	Gln 4315	Leu	Thr	Asn	Gly	Ile 4320	Lys	Glu	Leu
Gly	Pro 4325	Tyr	Thr	Leu	Asp	Arg 4330	Asn	Ser	Leu	Tyr	Val 4335	Asn	Gly	Phe
Thr	His 4340	Gln	Thr	Ser	Ala	Pro 4345	Asn	Thr	Ser	Thr	Pro 4350	Gly	Thr	Ser
Thr	Val 4355	Asp	Leu	Gly	Thr	Ser 4360	Gly	Thr	Pro	Ser	Ser 4365	Leu	Pro	Ser
Pro	Thr 4370	Xaa	Xaa	Xaa	Pro	Leu 4375	Leu	Xaa	Pro	Phe	Thr 4380	Leu	Asn	Phe
Thr	Ile 4385	Thr	Asn	Leu	Xaa	Tyr 4390	Glu	Glu	Xaa	Met	Xaa 4395	Xaa	Pro	Gly
Ser	Arg 4400	Lys	Phe	Asn	Thr	Thr 4405	Glu	Arg	Val	Leu	Gln 4410	Gly	Leu	Leu
Xaa	Pro 4415	Xaa	Phe	Lys	Xaa	Thr 4420	Ser	Val	Gly	Xaa	Leu 4425	Tyr	Ser	Gly
Cys	Arg 4430	Leu	Thr	Leu	Leu	Arg 4435	Xaa	Glu	Lys	Xaa	Xaa 4440	Ala	Ala	Thr
Xaa	Val 4445	Asp	Xaa	Xaa	Cys	Xaa 4450	Xaa	Xaa	Xaa	Asp	Pro 4455	Xaa	Xaa	Pro
Gly	Leu 4460	_	Arg	Glu	Xaa	Leu 4465	Tyr	Trp	Glu	Leu	Ser 4470	Xaa	Leu	Thr
Xaa	Xaa 4475	Ile	Xaa	Glu	Leu	Gly 4480	Pro	Tyr	Xaa	Leu	Asp 4485	Arg	Xaa	Ser
Leu	Tyr 4490	Val	Asn	Gly	Phe	Thr 4495	His	Trp	Ile	Pro	Val 4500	Pro	Thr	Ser
						Thr	Val	Asp	Leu	Gly	Ser	Gly	Thr	Pro
Ser	Thr 4505	Pro	Gly	Thr	Ser	4510		<u>r</u>		_	4515	-		

Met	His 4550	Cys	Pro	Gly	Ser	Arg 4555		Phe	Asn	Thr	Thr 4560	Glu	Arg	Val
Leu	Gln 4565	Ser	Leu	Leu	Gly	Pro 4570	Met	Phe	Lys	Asn	Thr 4575	Ser	Val	Gly
Pro	Leu 4580	Tyr	Ser	Gly	Cys	Arg 4585	Leu	Thr	Ser	Leu	Arg 4590	Ser	Glu	Lys
Asp	Gly 4595	Ala	Ala	Thr	Gly	Val 4600	Asp	Ala	Ile	Cys	Thr 4605	His	Arg	Val
Asp	Pro 4610	Lys	Ser	Pro	Gly	Val 4615		Arg	Glu	Gln	Leu 4620	Tyr	Trp	Glu
Leu	Ser 4625	Gln	Leu	Thr	Asn	Gly 4630	Ile	Lys	Glu	Leu	Gly 4635	Pro	Tyr	Thr
Leu	Asp 4640	Arg	Asn	Ser	Leu	Tyr 4645	Val	Asn	Gly	Phe	Thr 4650	His	Gln	Thr
Ser	Ala 4655	Pro	Asn	Thr	Ser	Thr 4660	Pro	Gly	Thr	Ser	Thr 4665	Val	Asp	Leu
Gly	Thr 4670	Ser	Gly	Thr	Pro	Ser 4675	Ser	Leu	Pro	Ser	Pro 4680	Thr	Ser	Ala
Gly	Pro 4685	Leu	Leu	Val	Pro	Phe 4690	Thr	Leu	Asn	Phe	Thr 4695	Ile	Thr	Asn
Leu	Gln 4700	Tyr	Glu	Glu	Asp	Met 4705	His	His	Pro	Gly	Ser 4710	Arg	Lys	Phe
Asn	Thr 4715	Thr	Glu	Arg	Val	Leu 4720	Gln	Gly	Leu	Leu	Gly 4725	Pro	Met	Phe
Lys	Asn 4730	Thr	Ser	Val	Gly	Leu 4735	Leu	Tyr	Ser	Gly	Cys 4740	Arg	Leu	Thr
Leu	Leu 4745	Arg	Pro	Glu	Lys	Asn 4750	_	Ala	Ala	Thr	Gly 4755	Met	Asp	Ala
Ile	Cys 4760	Thr	His	Arg	Leu	Asp 4765	Pro	Lys	Ser	Pro	Gly 4770	Leu	Asp	Arg
Glu	Xaa 4775	Leu	Tyr	Trp	Glu	Leu 4780	Ser	Xaa	Leu	Thr	Xaa 4785	Xaa	Ile	Xaa
Glu	Leu 4790	Gly	Pro	Tyr	Xaa	Leu 4795	Asp	Arg	Xaa	Ser	Leu 4800	Tyr	Val	Asn
Gly	Phe 4805	Xaa	Xaa	Xaa	Xaa	Xaa 4810	Xaa	Xaa	Xaa	Thr	Ser 4815	Thr	Pro	Gly
Thr	Ser 4820	Xaa	Val	Xaa	Leu	Xaa 4825	Thr	Ser	Gly	Thr	Pro 4830	Xaa	Xaa	Xaa
Pro	Xaa	Xaa	Thr	Xaa	Xaa	Xaa	Pro	Leu	Leu	Xaa	Pro	Phe	Thr	Leu

	4835					4840					4845			
Asn	Phe 4850	Thr	Ile	Thr	Asn	Leu 4855	Xaa	Tyr	Glu	Glu	Xaa 4860	Met	Xaa	Xaa
Pro	Gly 4865	Ser	Arg	Lys	Phe	Asn 4870	Thr	Thr	Glu	Arg	Val 4875	Leu	Gln	Gly
Leu	Leu 4880	Lys	Pro	Leu	Phe	Arg 4885		Ser	Ser	Leu	Glu 4890	Tyr	Leu	Tyr
Ser	Gly 4895	Cys	Arg	Leu	Ala	Ser 4900	Leu	Arg	Pro	Glu	Lys 4905	Asp	Ser	Ser
Ala	Met 4910	Ala	Val	Asp	Ala	Ile 4915	Cys	Thr	His	Arg	Pro 4920	Asp	Pro	Glu
Asp	Leu 4925	Gly	Leu	Asp		Glu 4930	Arg	Leu	Tyr	Trp	Glu 4935	Leu	Ser	Asn
Leu	Thr 4940	Asn	Gly	Ile	Gln	Glu 4945	Leu	Gly	Pro	Tyr	Thr 4950	Leu	Asp	Arg
Asn	Ser 4955	Leu	Tyr	Val	Asn	Gly 4960		Thr	His	Arg	Ser 4965	Ser	Met	Pro
Thr	Thr 4970	Ser	Thr	Pro	_	Thr 4975	Ser	Thr	Val	Asp	Val 4980	Gly	Thr	Ser
Gly	Thr 4985	Pro	Ser	Ser	Ser	Pro 4990	Ser	Pro	Thr	Thr	Ala 4995	Gly	Pro	Leu
Leu	Ile 5000	Pro	Phe	Thr	Leu	Asn 5005	Phe	Thr	Ile	Thr	Asn 5010	Leu	Gln	Tyr
Gly	Glu 5015	Asp	Met	Gly		Pro 5020	_	Ser	Arg	Lys	Phe 5025	Asn	Thr	Thr
Glu	Arg 5030	Val	Leu	Gln	Gly	Leu 5035	Leu	Gly	Pro	Ile	Phe 5040	Lys	Asn	Thr
Ser	Val 5045	Gly	Pro	Leu	Tyr	Ser 5050	Gly	Cys	Arg	Leu	Thr 5055	Ser	Leu	Arg
Ser	Glu 5060	Lys	Asp	Gly	Ala	Ala 5065	Thr	Gly	Val	Asp	Ala 5070	Ile	Cys	Ile
His	His 5075	Leu	Asp	Pro	Lys	Ser 5080	Pro	Gly	Leu	Asn	Arg 5085	Glu	Arg	Leu
Tyr	Trp 5090	Glu	Leu	Ser	Gln	Leu 5095	Thr	Asn	Gly	Ile	Lys 5100	Glu	Leu	Gly
Pro	Tyr 5105	Thr	Leu	Asp	Arg	Asn 5110	Ser	Leu	Tyr	Val	Asn 5115	Gly	Phe	Thr
His	Arg 5120	Thr	Ser	Val	Pro	Thr 5125	Thr	Ser	Thr	Pro	Gly 5130	Thr	Ser	Thr

Val	Asp 5135	Leu	Gly	Thr	Ser	Gly 5140	Thr	Pro	Phe	Ser	Leu 5145	Pro	Ser	Pro
Ala	Thr 5150	Ala	Gly	Pro	Leu	Leu 5155	Val	Leu	Phe	Thr	Leu 5160	Asn	Phe	Thr
Ile	Thr 5165	Asn	Leu	Lys	Tyr	Glu 5170	Glu	Asp	Met	His	Arg 5175	Pro	Gly	Ser
Arg	Lys 5180	Phe	Asn	Thr	Thr	Glu 5185	Arg	Val	Leu	Gln	Thr 5190	Leu	Leu	Gly
Pro	Met 5195	Phe	Lys	Asn	Thr	Ser 5200	Val	Gly	Leu	Leu	Tyr 5205	Ser	Gly	Cys
Arg	Leu 5210	Thr	Leu	Leu	Arg	Ser 5215	Glu	Lys	_	Gly	Ala 5220	Ala	Thr	Gly
Val	Asp 5225	Ala	Ile	Cys	Thr	His 5230	Arg	Leu	Asp	Pro	Lys 5235	Ser	Pro	Gly
Leu	Asp 5240	Arg	Glu	Xaa	Leu	Tyr 5245	Trp	Glu	Leu	Ser	Xaa 5250	Leu	Thr	Хаа
Xaa	Ile 5255	Xaa	Glu	Leu	Gly	Pro 5260	Tyr	Xaa	Leu	Asp	Arg 5265	Xaa	Ser	Leu
Tyr	Val 5270	Asn	Gly	Phe	Xaa	Xaa 5275	Xaa	Xaa	Xaa	Xaa	Xaa 5280	Xaa	Thr	Ser
Thr	Pro 5285	Gly	Thr	Ser	Xaa	Val 5290	Xaa	Leu	Xaa	Thr	Ser 5295	Gly	Thr	Pro
Xaa	Xaa 5300	Xaa	Pro	Xaa	Xaa	Thr 5305	Xaa	Xaa	Xaa	Pro	Leu 5310	Leu	Xaa	Pro
Phe	Thr 5315	Leu	Asn	Phe	Thr	Ile 5320	Thr	Asn	Leu	Xaa	Tyr 5325	Glu	Glu	Xaa
						5320					5325			
Met	5315 Xaa	Xaa	Pro	Gly	Ser	5320 Arg 5335	Lys	Phe	Asn	Thr	5325 Thr 5340	Glu	Arg	Val
Met Leu	5315 Xaa 5330 Gln	Xaa Gly	Pro Leu	Gly	Ser Arg	5320 Arg 5335 Pro 5350	Lys Val	Phe Phe	Asn Lys	Thr Asn	5325 Thr 5340 Thr 5355	Glu Ser	Arg Val	Val Gly
Met Leu Pro	5315 Xaa 5330 Gln 5345 Leu	Xaa Gly Tyr	Pro Leu Ser	Gly Leu Gly	Ser Arg Cys	5320 Arg 5335 Pro 5350 Arg 5365	Lys Val Leu	Phe Phe Thr	Asn Lys Leu	Thr Asn Leu	5325 Thr 5340 Thr 5355 Arg 5370	Glu Ser Pro	Arg Val Lys	Val Gly Lys
Met Leu Pro	5315 Xaa 5330 Gln 5345 Leu 5360	Xaa Gly Tyr Ala	Pro Leu Ser	Gly Leu Gly Thr	Ser Arg Cys	5320 Arg 5335 Pro 5350 Arg 5365 Val 5380	Lys Val Leu Asp	Phe Phe Thr	Asn Lys Leu Ile	Thr Asn Leu Cys	5325 Thr 5340 Thr 5355 Arg 5370 Thr 5385	Glu Ser Pro Tyr	Arg Val Lys Arg	Val Gly Lys Pro
Met Leu Pro Asp	5315 Xaa 5330 Gln 5345 Leu 5360 Gly 5375 Pro	Xaa Gly Tyr Ala Lys	Pro Leu Ser Ala	Gly Leu Gly Thr	Ser Arg Cys Lys	5320 Arg 5335 Pro 5350 Arg 5365 Val 5380 Leu 5395	Lys Val Leu Asp	Phe Phe Thr Ala Arg	Asn Lys Leu Ile Glu	Thr Asn Leu Cys	5325 Thr 5340 Thr 5355 Arg 5370 Thr 5385 Leu 5400	Glu Ser Pro Tyr	Arg Val Lys Arg	Val Gly Lys Pro

Ser	Val 5435	Pro	Thr	Thr	Ser	Ile 5440	Pro	Gly	Thr	Ser	Ala 5445	Val	His	Leu
Glu	Thr 5450	Thr	Gly	Thr	Pro	Ser 5455	Ser	Phe	Pro	Gly	His 5460	Thr	Glu	Pro
Gly	Pro 5465	Leu	Leu	Ile	Pro	Phe 5470	Thr	Phe	Asn	Phe	Thr 5475	Ile	Thr	Asn
Leu	Arg 5480	Tyr	Glu	Glu	Asn	Met 5485		His	Pro	Gly	Ser 5490	Arg	Lys	Phe
Asn	Thr 5495	Thr	Glu	Arg	Val	Leu 5500	Gln	Gly	Leu	Leu	Thr 5505	Pro	Leu	Phe
Lys	Asn 5510	Thr	Ser	Val	Gly	Pro 5515	Leu	Tyr	Ser	Gly	Cys 5520	Arg	Leu	Thr
Leu	Leu 5525	Arg	Pro	Glu	Lys	Gln 5530	Glu	Ala	Ala	Thr	Gly 5535	Val	Asp	Thr
Ile	Cys 5540	Thr	His	Arg	Val	Asp 5545	Pro	Ile	Gly	Pro	Gly 5550	Leu	Asp	Arg
Glu	Arg 5555	Leu	Tyr	Trp	Glu	Leu 5560	Ser	Gln	Leu	Thr	Asn 5565	Ser	Ile	Thr
Glu	Leu 5570	Gly	Pro	Tyr	Thr	Leu 5575	Asp	Arg	Asp	Ser	Leu 5580	Tyr	Val	Asp
Gly	Phe 5585	Asn	Pro	Trp	Ser	Ser 5590	Val	Pro	Thr	Thr	Ser 5595	Thr	Pro	Gly
Thr	Ser 5600	Thr	Val	His	Leu	Ala 5605	Thr	Ser	Gly	Thr	Pro 5610	Ser	Pro	Leu
Pro	Gly 5615	His	Thr	Ala		Val 5620	Pro	Leu	Leu	Ile	Pro 5625	Phe	Thr	Leu
Asn	Phe 5630	Thr	Ile	Thr	Asp	Leu 5635	His	Tyr	Glu	Glu	Asn 5640	Met	Gln	His
Pro	Gly 5645	Ser	Arg	Lys	Phe	Asn 5650	Thr	Thr	Glu	Arg	Val 5655	Leu	Gln	Gly
Leu	Leu 5660	Lys	Pro	Leu	Phe	Lys 5665		Thr	Ser	Val	Gly 5670	Pro	Leu	Tyr
Ser	Gly 5675	Cys	Arg	Leu	Thr	Leu 5680	Leu	Arg	Pro	Glu	Lys 5685	His	Gly	Ala
Ala	Thr 5690	Gly	Val	Asp	Ala	Ile 5695	Cys	Thr	Leu	Arg	Leu 5700	Asp	Pro	Thr
Gly	Pro 5705	Gly	Leu	Asp	Arg	Glu 5710	Arg	Leu	Tyr	Trp	Glu 5715	Leu	Ser	Gln
Leu	Thr	Asn	Ser	Ile	Thr	Glu	Leu	Gly	Pro	Tyr	Thr	Leu	Asp	Arg

Asp Serze Serz															
5735 5740 5745 Ala Th. Thr Thr 5750 Ser Thr Pro Gly Thr 5755 Ser Thr Val Ris Leu 5760 Ala Th. Gly Thr 5765 Pro Ser Ser Leu Pro 5770 Gly His Thr Thr Ala 61y Pro 5775 Gly Pro 5770 Leu Val 7870 Pro Phe Thr Leu Asn 5785 Phe Thr IIe Thr Asn 5770 Leu Lys 5780 Glu 3810 Asp Met His Cys Pro 5780 Gly Ser Arg Lys Phe 5790 Asn 5795 Glu 4871 Val Leu Gln Ser Leu 5815 His Gly Pro Met Phe 5820 Asn 5820 Ser Salo Gly Pro Leu Tyr Ser 5830 Gly Cys Arg Leu Thr 5835 Leu Thr 5835 Ser Glu 5840 Lys Asp Gly Ala Ala 5845 Thr Gly Val Asp Ala 5830 Ile Cys 5830 Fro 5845 Leu Asp Pro Lys Ser 6860 Pro Gly Leu Asp Arg 5880 Glu Leu Asp Arg 5880 Pro Gly Leu Asp Arg 5880 Glu Leu Asp Arg 5880 Fro Gly Leu Asp Arg 5880 Glu Leu Asp Arg 5880 Fro Gly Leu Asp 610 Arg 5880 Glu Leu Asp 610 Arg 5880 Fro Gly Leu Tyr Val Asp 5880 Glu Leu 5880 Glu Leu 5880 Fro Gly Pro 5880 Glu Leu 5880<		5720					5725					5730			
5750 5755 5760 Gly Thr 5765 Pro Ser Ser Leu Pro 5770 Gly His Thr Thr Ala 5775 Gly Pro 5775 Leu Val 5780 Pro Phe Thr Leu Asn 5785 Phe Thr Ile Thr Asn 5790 Leu Lys 5780 Glu Glu 5795 Asp Met His Cys Pro 5800 Gly Ser Arg Lys Phe 5800 Asn Thr 5800 Glu Arg 5810 Val Leu Gln Ser Leu His Gly Pro Met 5825 Lys Asn 5825 Ser Val 5825 Gly Pro Leu Tyr Ser 5830 Gly Cys Arg Leu Thr Leu Leu 5835 Ser Glu Lys Asp Gly Ala Ala 5845 Thr Gly Val Asp Ala 1le Cys 5850 Flis Arg Leu Asp Pro Lys Ser 5860 Pro Gly Leu Asp Arg Arg 5865 Tyr Trp 5870 Glu Leu Ser Xaa Leu 5875 Thr Xaa Xaa Ile Xaa Glu Leu 5880 Yaa 5885 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Sag 5890 Ser Leu Tyr Val Asp 61y Phe 5895 Yal Xaa Leu Xaa Thr Ser Gly Thr Pro Xaa Xaa Xaa Xaa Sag Pro Xaa 5900 Thr Ser 5900 Thr Ser 5910 Yal Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa X	Asp		Leu	Tyr	Val	Asn		Phe	Asn	Pro	Trp		Ser	Val	Pro
5765 5770 5775 5775 Leu Val Pro Phe Thr Leu Asn 5785 Phe Thr Ile Thr Asn 5790 Leu Lys 5780 Glu Glu Glu Asp Met His Cys Pro 5800 Gly Ser Arg Lys Phe 5805 Asn Thr 5805 Glu Arg S810 Val Leu Gln Ser Leu Flis Gly Pro Met 5820 Lys Asn 5825 Ser Val Gly Pro Leu Tyr Ser 5830 Gly Cys Arg Leu Thr 5835 Leu Leu Ser 5835 Ser Glu Lys Asp Gly Ala Ala S845 Thr Gly Val Asp Ala Jle Cys 5850 Jle Cys 5850 His Arg Leu Asp Pro Lys Ser 5860 Pro Gly Leu Asp Arg 5865 Glu Xas 5865 Tyr Trp 5870 Glu Leu Ser Xaa Leu Thr Xaa Xaa Ile Xaa 5880 Glu Let 5880 Tyr Trp 5870 Glu Leu Asp Arg 5895 Ser Leu Tyr Val Asp 5895 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa 5890 Ser Leu Tyr Val Asp 5895 Gly Phe 5895 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa 5995 Thr Pro Xaa Xaa Xaa Xaa 5925 Pro Xaa 5925 Thr Xaa Xaa Xaa Xaa Pro Leu Leu 5935 Xaa Pro Phe Thr Leu Asp Pro Cly 5930 Ile Thr Asn Leu Xaa Thr Thr Glu 5935 Arg Val Leu Gln Gly Ser Gly 5970 Pro Xaa 5990 Phe Asn Thr Thr Glu 5965 Arg Val Leu Gln Gly 5970 Ser Gly 5985 Arg Lys 5960 Phe Lys Xaa Thr Ser 5980 Val Gly Xaa Leu Tyr 5985 Ser Gly 5985 <td>Thr</td> <td></td> <td>Ser</td> <td>Thr</td> <td>Pro</td> <td>Gly</td> <td></td> <td>Ser</td> <td>Thr</td> <td>Val</td> <td>His</td> <td></td> <td>Ala</td> <td>Thr</td> <td>Ser</td>	Thr		Ser	Thr	Pro	Gly		Ser	Thr	Val	His		Ala	Thr	Ser
5780 5785 5790 Glu Glu Glu Asp Met His Cys Pro 5800 Gly Ser Arg Lys Phe 5805 Asn The 5805 Glu Arg 5810 Val Leu Gln Ser Leu 5815 His Gly Pro Met Phe 5820 Lys Asn 5825 Ser Val 5825 Gly Pro Leu Tyr Ser 5830 Gly Cys Arg Leu Thr 5835 Leu Leu 5835 Ser Glu Lys Asp Gly Ala Ala 5845 Thr Gly Val Asp Ala 5850 Ile Cys 5850 Flis Arg 5855 Leu Asp Pro Lys Ser 5860 Pro Gly Leu Asp Arg 5865 Glu Xas 5865 Tyr Trp 5870 Glu Leu Ser Xaa Leu 5875 Thr Xaa Xaa Ile Xaa Glu Leu 5880 Glu Leu 5880 Pro Tyr 5885 Xaa Leu Asp Arg Xaa 5890 Ser Leu Tyr Val Asn 5895 Gly Phe 5895 Xaa	Gly		Pro	Ser	Ser	Leu		Gly	His	Thr	Thr		Gly	Pro	Leu
5795 5800 5805 Glu Arg 5810 Val Leu Gln Ser Leu 5815 His Gly Pro Met 5820 Phe 5820 Lys Ast 5820 Ser Val 5825 Gly Pro Leu Tyr 5830 Gly Cys Arg Leu Thr 5835 Leu Leu 5835 Leu Leu 5835 Ser Glu 5840 Lys Asp Gly Ala Ala 5845 Thr Gly Val Asp Ala 5855 Ala 5845 Thr Gly Val Asp Arg Arg 5865 Glu Xas 5865 Tyr Trp 5870 Glu Leu Ser Xaa Leu 5875 Thr Xaa Xaa Ile Xaa Glu Leu 5885 Glu Leu 5886 Pro Gly Leu Tyr Val Asp 619 Arg 5880 Glu Pro 5885 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa 5890 Ser Leu Tyr Val Asp 619 Arg 5895 Fro Gly 5910 Thr Ser 5910 Thr	Leu		Pro	Phe	Thr	Leu		Phe	Thr	Ile	Thr		Leu	Lys	Tyr
Ser Val 5825 Gly Pro Leu Tyr Ser 5830 Gly Cys Arg Leu Thr 5835 Leu Leu Leu Leu Leu Leu Leu Ser 5840 Gly Cys Arg Leu Thr Leu Leu Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Asp	Glu		Asp	Met	His	Cys		Gly	Ser	Arg	Lys		Asn	Thr	Thr
Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys 5840 Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys 5840 Leu Asp Pro Lys Ser Pro Gly Leu Asp Arg Ser Pro Gly Leu Asp Arg Ser Leu Thr Xaa Ile Xaa Gly Pro Tyr Trp Glu Leu Asp Arg Xaa Ser Leu Tyr Val Asp Gly Pro Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Yaa Asp Pro Yaa Yaa Asp Pro Yaa Asp Pro Yaa Asp Pro Yaa Asp Pro Yaa Yaa Yaa Pro Yaa Yaa Yaa Pro Yaa Yaa Yaa Pro <td< td=""><td>Glu</td><td>_</td><td>Val</td><td>Leu</td><td>Gln</td><td>Ser</td><td></td><td>His</td><td>Gly</td><td>Pro</td><td>Met</td><td></td><td>Lys</td><td>Asn</td><td>Thr</td></td<>	Glu	_	Val	Leu	Gln	Ser		His	Gly	Pro	Met		Lys	Asn	Thr
5840 5845 5850 His Arg 5855 Leu Asp Pro Lys 5860 Pro Gly Leu Asp Arg 5865 Glu Xar 5865 Tyr Trp 5870 Glu Leu Ser Xaa Leu 5875 Thr Xaa Xaa Ile Xaa Ile Xaa 61	Ser		Gly	Pro	Leu	Tyr		Gly	Cys	Arg	Leu		Leu	Leu	Arg
5855 5860 5865 Tyr Trp 5870 Glu Leu Ser Xaa Leu 5875 Thr Xaa Xaa Ile Xaa Glu Leu 5880 Pro Tyr 5885 Xaa Leu Asp Arg Xaa 5890 Ser Leu Tyr Val Asn 5895 Gly Pho 5895 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa 5900 Thr Ser Thr Pro Gly 5910 Thr Ser 5910 Thr Ser 5910 Val Xaa Leu Xaa Thr Ser Gly 5920 Thr Pro Xaa Xaa Xaa Xaa 5925 Pro Xaa 5925 Pro Xaa 5925 Thr Xaa Xaa Xaa Xaa Pro Leu Leu 5935 Xaa Pro Phe Thr Leu Ser 5940 Asn Pho 5940 Ile Thr 5945 Asn Leu Xaa Tyr Glu 5950 Glu Xaa Met Xaa Xaa Xaa 5955 Pro Gly 5960 Arg Lys 5960 Phe Asn Thr Thr Glu 5965 Arg Val Leu Gln Gly 5970 Leu Leu 5965 Pro Xaa 5990 Phe Lys Xaa Thr Ser 5980 Val Gly Xaa Leu Tyr 5985 Ser Gly 5995 Arg Leu Thr Leu Leu Arg Xaa 5995 Glu Lys Xaa Xaa Ala Ala 6000 Ala Thr 5990 Val Asp Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Asp Pro Xaa Xaa Xaa Ala 6000 Ala Thr 5990	Ser		Lys	Asp	Gly	Ala		Thr	Gly	Val	Asp		Ile	Cys	Thr
5870 5875 5880 Pro Tyr 5885 Xaa Leu Asp Arg Xaa 5890 Ser Leu Tyr Val Asn 5895 Gly Pho 5895 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa 5900 Thr Ser Thr Pro Gly 5910 Thr Ser 5900 Thr Ser 5905 Val Xaa Leu Xaa Thr Ser Gly 5920 Thr Pro Xaa Xaa Xaa Xaa Xaa Fro 5925 Pro Xaa 5925 Pro Xaa 5925 Thr Xaa Saa Xaa Xaa Xaa Yaa Yaa Pro Leu Leu Sy35 Ser Glu Xaa Met Xaa Xaa Pro Glu 5935 Pro Glu 5945 Arg Lys Sy60 Phe Asn Thr Thr Glu 5965 Arg Val Leu Gln Gly 5970 Leu Leu Sy3595 Pro Xaa Sy75 Phe Lys Xaa Thr Ser Sy80 Val Gly Xaa Leu Tyr Ser Sy85 Ser Gly 5985 Arg Leu Thr Leu Leu Arg Xaa Sy95 Glu Lys Xaa Xaa Xaa Ala Ala Thr Ser Sy95 Ser Gly 5995 Arg Lau Thr Leu Leu Arg Xaa Sy95 Glu Lys Xaa Xaa Ala Ala Ala Thr Ser Sy95 Ser Gly 5995	His	_	Leu	Asp	Pro	Lys		Pro	Gly	Leu	Asp		Glu	Xaa	Leu
Xaa Aaa Pro Yaa Yaa Yaa Yaa Yaa Yaa Pro Yaa Yaa Yaa Pro Yaa Yaa Yaa Pro Yaa Y	Tyr		Glu	Leu	Ser	Xaa		Thr	Xaa	Xaa	Ile		Glu	Leu	Gly
5900 5905 5910 Val Xaa 5915 Leu Xaa Thr Ser Gly 5920 Thr Pro Xaa Xaa Xaa Xaa Xaa 5925 Pro Xaa 5925 Thr Xaa Xaa Xaa Xaa Pro Leu Leu 5935 Xaa Pro Phe Thr Leu Asn Phe 5940 Asn Phe 5940 Ile Thr Asn Leu Xaa Tyr Glu 5950 Glu Xaa Met Xaa Xaa Xaa Xaa Pro Gly 5950 Arg Lys Phe Asn Thr Thr Glu 5965 Arg Val Leu Gln Gly 5970 Leu Leu Leu Arg Xaa 5980 Pro Xaa Fhe Lys Xaa Thr 5980 Val Gly Xaa Leu Tyr 5985 Ser Gly 5985 Arg Leu Thr Leu Leu Arg Xaa 5995 Glu Lys Xaa Xaa Ala 6000 Ala Thr 6000 Val Asp Xaa Xaa Xaa Xaa Xaa Xaa Xaa Asp Pro Xaa Xaa Ala Ala Ala 71 Ala Pro Xaa Xaa Xaa Xaa Xaa Xaa Xaa Asp Pro Xaa Xaa Xaa Ala Ala Ala Ala Ala Ala Ala Ala Syaa Yaa Xaa Xaa Asp Pro Xaa Xaa Xaa Ala Ala Ala Ala Ala Syaa Yaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa X	Pro	-	Xaa	Leu	Asp	Arg		Ser	Leu	Tyr	Val		Gly	Phe	Xaa
5915 5920 5925 Thr Xaa Xaa Xaa Pro Leu Leu 5935 Xaa Pro Phe Thr Leu Asn Phe 5940 Asn Phe 5930 Ile Thr S945 Asn Leu Xaa Tyr Glu 5950 Glu Xaa Met Xaa Xaa Xaa Pro Gly 5955 Pro Gly 5955 Arg Lys Phe Asn Thr Thr Glu 5965 Arg Val Leu Gln Gly 5970 Leu Leu 5970 Pro Xaa Phe Lys Xaa Thr Ser 5980 Val Gly Xaa Leu Tyr 5985 Ser Gly 5985 Arg Leu Thr Leu Leu Arg Xaa S995 Glu Lys Xaa Xaa Xaa Ala Ala Ala Thr 6000 Ala Thr 6000 Val Asp Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Asp Pro Xaa Xaa Ala Ala Ala Pro	Xaa		Xaa	Xaa	Xaa	Xaa		Thr	Ser	Thr	Pro	_	Thr	Ser	Xaa
5930 5935 5940 Ile Thr 5945 Asn Leu Xaa Tyr Glu 5950 Glu Xaa Met Xaa Xaa Pro Gly 5955 Pro Gly 5955 Arg Lys 5960 Phe Asn Thr Thr Glu 5965 Arg Val Leu Gln Gly 5970 Leu Leu 5970 Pro Xaa 5975 Phe Lys Xaa Thr Ser 5980 Val Gly Xaa Leu Tyr 5985 Ser Gly 5985 Arg Leu 5990 Thr Leu Leu Arg Xaa 601 Glu Lys Xaa Xaa Xaa Ala 6000 Ala Thr 6000 Val Asp Xaa Xaa Xaa Xaa Xaa Xaa Xaa Asp Pro Xaa Xaa Ala Ala Ala Pro	Val		Leu	Xaa	Thr	Ser		Thr	Pro	Xaa	Xaa		Pro	Xaa	Xaa
Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu S970 Pro Xaa Phe Lys Xaa Thr Ser S980 Arg Leu Tyr Ser Gly S975 Arg Leu Thr Leu Leu Arg Xaa Glu Lys Xaa Xaa Ala Ala Thr S990 Val Asp Xaa Xaa Cys Xaa Xaa Xaa Xaa Asp Pro Xaa Xaa Pro	Thr		Xaa	Xaa	Pro	Leu		Xaa	Pro	Phe	Thr		Asn	Phe	Thr
Fro Xaa Phe Lys Xaa Thr Ser Val Gly Xaa Leu Tyr Ser Gly 5975 Arg Leu Thr Leu Leu Arg Xaa Glu Lys Xaa Xaa Ala Ala Thr 5990 Val Asp Xaa Xaa Cys Xaa Xaa Xaa Xaa Asp Pro Xaa Xaa Pro	Ile		Asn	Leu	Xaa	Tyr		Glu	Xaa	Met	Xaa		Pro	Gly	Ser
5975 5980 5985 Arg Leu Thr Leu Leu Arg Xaa Glu Lys Xaa Xaa Ala Ala Thr 5990 Val Asp Xaa Xaa Cys Xaa Xaa Xaa Xaa Asp Pro Xaa Xaa Pro	Arg	_	Phe	Asn	Thr	Thr		Arg	Val	Leu	Gln	_	Leu	Leu	Xaa
5990 5995 6000 Val Asp Xaa Xaa Cys Xaa Xaa Xaa Xaa Asp Pro Xaa Xaa Pro	Pro		Phe	Lys	Xaa	Thr		Val	Gly	Xaa	Leu	_	Ser	Gly	Cys
	Arg		Thr	Leu	Leu	Arg		Glu	Lys	Xaa	Xaa		Ala	Thr	Xaa
	Val	_	Xaa	Xaa	Cys	Xaa		Xaa	Xaa	Asp	Pro		Xaa	Pro	Gly

Leu	Asp 6020	Arg	Glu	Xaa	Leu	Tyr 6025	Trp	Glu	Leu	Ser	Xaa 6030	Leu	Thr	Asn
Ser	Ile 6035	Thr	Glu	Leu	Gly	Pro 6040	Tyr	Thr	Leu	Asp	Arg 6045	Asp	Ser	Leu
Tyr	Val 6050	Asn	Gly	Phe	Thr	His 6055	Arg	Ser	Ser	Met	Pro 6060	Thr	Thr	Ser
Ile	Pro 6065	Gly	Thr	Ser	Ala	Val 6070	His	Leu	Glu	Thr	Ser 6075	Gly	Thr	Pro
Ala	Ser 6080	Leu	Pro	Gly	His	Thr 6085	Ala	Pro	Gly	Pro	Leu 6090	Leu	Val	Pro
Phe	Thr 6095	Leu	Asn	Phe	Thr	Ile 6100	Thr	Asn	Leu	Gln	Tyr 6105	Glu	Glu	Asp
Met	Arg 6110	His	Pro	Gly	Ser	Arg 6115	Lys	Phe	Asn	Thr	Thr 6120	Glu	Arg	Val
Leu	Gln 6125	Gly	Leu	Leu	Lys	Pro 6130		Phe	Lys	Ser	Thr 6135	Ser	Val	Gly
Pro	Leu 6140	Tyr	Ser	Gly	Cys	Arg 6145	Leu	Thr	Leu	Leu	Arg 6150	Pro	Glu	Lys
Arg	Gly 6155	Ala	Ala	Thr	Gly	Val 6160	Asp	Thr	Ile	Cys	Thr 6165	His	Arg	Leu
Asp	Pro 6170	Leu	Asn	Pro	Gly	Leu 6175	Asp	Arg	Glu	Xaa	Leu 6180	Tyr	Trp	Glu
Leu	Ser 6185	Xaa	Leu	Thr	Xaa	Xaa 6190	Ile	Xaa	Glu	Leu	Gly 6195	Pro	Tyr	Xaa
Leu	Asp 6200	Arg	Xaa	Ser	Leu	Tyr 6205	Val	Asn	Gly	Phe	Xaa 6210	Xaa	Xaa	Xaa
Xaa	Xaa 6215	Xaa	Xaa	Thr	Ser	Thr 6220	Pro	Gly	Thr	Ser	Xaa 6225	Val	Xaa	Leu
Xaa	Thr 6230	Ser	Gly	Thr	Pro	Xaa 6235		Xaa	Pro	Xaa	Xaa 6240	Thr	Xaa	Xaa
Xaa	Pro 6245	Leu	Leu	Xaa	Pro	Phe 6250	Thr	Leu	Asn	Phe	Thr 6255	Ile	Thr	Asn
Leu	Xaa 6260	Tyr	Glu	Glu	Xaa	Met 6265	Xaa	Xaa	Pro	Gly	Ser 6270	Arg	Lys	Phe
Asn	Thr 6275	Thr	Glu	Arg	Val	Leu 6280	Gln	Gly	Leu	Leu	Xaa 6285	Pro	Xaa	Phe
Lys	Xaa 6290	Thr	Ser	Val	Gly	Xaa 6295	Leu	Tyr	Ser	Gly	Cys 6300	Arg	Leu	Thr
Leu	Leu 6305	Arg	Xaa	Glu	Lys	Xaa 6310		Ala	Ala	Thr	Xaa 6315	Val	Asp	Xaa

Xaa Cys 6320	Xaa	Xaa	Xaa	Xaa	Asp 6325	Pro	Xaa	Xaa	Pro	Gly 6330	Leu	Asp	Arg
Glu Xaa 6335	Leu	Tyr	Trp	Glu	Leu 6340	Ser	Xaa	Leu	Thr	Xaa 6345	Xaa	Ile	Xaa
Glu Leu 6350	_	Pro	Tyr	Xaa	Leu 6355	Asp	Arg	Xaa	Ser	Leu 6360	Tyr	Val	Asn
Gly Phe 6365		Pro	Arg	Ser	Ser 6370	Val	Pro	Thr	Thr	Ser 6375	Thr	Pro	Gly
Thr Ser 6380		Val	His	Leu	Ala 6385	Thr	Ser	Gly	Thr	Pro 6390	Ser	Ser	Leu
Pro Gly 6395		Thr	Ala	Pro	Val 6400	Pro	Leu	Leu	Ile	Pro 6405	Phe	Thr	Leu
Asn Phe 6410		Ile	Thr	Asn	Leu 6415	His	Tyr	Glu	Glu	Asn 6420	Met	Gln	His
Pro Gly 6425		Arg	Lys	Phe	Asn 6430	Thr	Thr	Glu	Arg	Val 6435	Leu	Gln	Gly
Leu Leu 6440	Gly	Pro	Met	Phe	Lys 6445	Asn	Thr	Ser	Val	Gly 6450	Leu	Leu	Tyr
Ser Gly 6455	_	Arg	Leu	Thr	Leu 6460	Leu	Arg	Pro	Glu	Lys 6465	Asn	Gly	Ala
Ala Thr 6470		Met	Asp	Ala	Ile 6475	Cys	Ser	His	Arg	Leu 6480	Asp	Pro	Lys
Ser Pro 6485		Leu	Asp	Arg	Glu 6490	Xaa	Leu	Tyr	Trp	Glu 6495	Leu	Ser	Xaa
Leu Thr 6500	Xaa	Xaa	Ile	Xaa	Glu 6505	Leu	Gly	Pro	Tyr	Xaa 6510	Leu	Asp	Arg
Xaa Ser 6515		Tyr	Val	Asn	Gly 6520	Phe	Xaa	Xaa	Xaa	Xaa 6525	Xaa	Xaa	Xaa
Xaa Thr 6530		Thr	Pro	Gly	Thr 6535	Ser	Xaa	Val	Xaa	Leu 6540	Xaa	Thr	Ser
Gly Thr 6545		Xaa	Xaa	Xaa	Pro 6550	Xaa	Xaa	Thr	Xaa	Xaa 6555	Xaa	Pro	Leu
Leu Xaa 6560		Phe	Thr	Leu	Asn 6565	Phe	Thr	Ile	Thr	Asn 6570	Leu	Xaa	Tyr
Glu Glu 6575		Met	Xaa	Xaa	Pro 6580	Gly	Ser	Arg	Lys	Phe 6585	Asn	Thr	Thr
Glu Arg 6590		Leu	Gln	Gly	Leu 6595	Leu	Xaa	Pro	Xaa	Phe 6600	Lys	Xaa	Thr
Ser Val	Gly	Xaa	Leu	Tyr	Ser	Gly	Cys	Arg	Leu	Thr	Leu	Leu	Arg

	6605					6610					6615			
Xaa	Glu 6620	Lys	Xaa	Xaa	Ala	Ala 6625	Thr	Xaa	Val	Asp	Xaa 6630	Xaa	Cys	Xaa
Xaa	Xaa 6635	Xaa	Asp	Pro	Xaa	Xaa 6640	Pro	Gly	Leu	Asp	Arg 6645	Glu	Xaa	Leu
Tyr	Trp 6650	Glu	Leu	Ser		Leu 6655	Thr	Xaa	Xaa	Ile	Xaa 6660	Glu	Leu	Gly
Pro	Tyr 6665	Xaa	Leu	Asp	Arg	Xaa 6670	Ser	Leu	Tyr	Val	Asn 6675	Gly	Phe	Thr
His	Gln 6680	Asn	Ser	Val	Pro	Thr 6685	Thr	Ser	Thr	Pro	Gly 6690	Thr	Ser	Thr
Val	Tyr 6695	Trp	Ala	Thr	Thr	Gly 6700	Thr	Pro	Ser	Ser	Phe 6705	Pro	Gly	His
Thr	Glu 6710	Pro	Gly	Pro	Leu	Leu 6715	Ile	Pro	Phe	Thr	Phe 6720	Asn	Phe	Thr
Ile	Thr 6725	Asn	Leu	His	Tyr	Glu 6730	Glu	Asn	Met	Gln	His 6735	Pro	Gly	Ser
Arg	Lys 6740	Phe	Asn	Thr	Thr	Glu 6745	Arg	Val	Leu	Gln	Gly 6750	Leu	Leu	Thr
Pro	Leu 6755	Phe	Lys	Asn	Thr	Ser 6760	Val	Gly	Pro	Leu	Tyr 6765	Ser	Gly	Cys
Arg	Leu 6770	Thr	Leu	Leu	Arg	Pro 6775	Glu	Lys	Gln	Glu	Ala 6780	Ala	Thr	Gly
Val	Asp 6785	Thr	Ile	Cys	Thr	His 6790	Arg	Val	Asp	Pro	Ile 6795	Gly	Pro	Gly
Leu	Asp 6800	Arg	Glu	Xaa	Leu	Tyr 6805	Trp	Glu	Leu	Ser	Xaa 6810	Leu	Thr	Xaa
Xaa	Ile 6815	Xaa	Glu	Leu	Gly	Pro 6820	Tyr	Xaa	Leu	Asp	Arg 6825	Xaa	Ser	Leu
Tyr	Val 6830	Asn	Gly	Phe	Xaa	Xaa 6835	Xaa	Xaa	Xaa	Xaa	Xaa 6840	Xaa	Thr	Ser
Thr	Pro 6845	Gly	Thr	Ser	Xaa	Val 6850	Xaa	Leu	Xaa	Thr	Ser 6855	Gly	Thr	Pro
Xaa	Xaa 6860	Xaa	Pro	Xaa	Xaa	Thr 6865	Xaa	Xaa	Xaa	Pro	Leu 6870	Leu	Xaa	Pro
Phe	Thr 6875	Leu	Asn	Phe	Thr	Ile 6880	Thr	Asn	Leu	Xaa	Tyr 6885	Glu	Glu	Xaa
Met	Xaa 6890	Xaa	Pro	Gly	Ser	Arg 6895	Lys	Phe	Asn	Thr	Thr 6900	Glu	Arg	Val

Leu	Gln 6905	Gly	Leu	Leu	Xaa	Pro 6910	Xaa	Phe	Lys	Xaa	Thr 6915	Ser	Val	Gly
Xaa	Leu 6920	Tyr	Ser	Gly	Cys	Arg 6925	Leu	Thr	Leu	Leu	Arg 6930	Xaa	Glu	Lys
Xaa	Xaa 6935	Ala	Ala	Thr	Xaa	Val 6940	Asp	Xaa	Xaa	Cys	Xaa 6945	Xaa	Xaa	Xaa
Asp	Pro 6950	Xaa	Xaa	Pro	Gly	Leu 6955	Asp	Arg	Glu	Xaa	Leu 6960	Tyr	Trp	Glu
Leu	Ser 6965	Xaa	Leu	Thr	Xaa	Xaa 6970	Ile	Xaa	Glu	Leu	Gly 6975	Pro	Tyr	Xaa
Leu	Asp 6980	Arg	Xaa	Ser	Leu	Tyr 6985	Val	Asn	Gly	Phe	Thr 6990	His	Arg	Ser
Ser	Val 6995	Pro	Thr	Thr	Ser	Ser 7000	Pro	Gly	Thr	Ser	Thr 7005	Val	His	Leu
Ala	Thr 7010	Ser	Gly	Thr	Pro	Ser 7015	Ser	Leu	Pro	Gly	His 7020	Thr	Ala	Pro
Val	Pro 7025	Leu	Leu	Ile	Pro	Phe 7030	Thr	Leu	Asn	Phe	Thr 7035	Ile	Thr	Asn
Leu	His 7040	Tyr	Glu	Glu	Asn	Met 7045	Gln	His	Pro	Gly	Ser 7050	Arg	Lys	Phe
Asn	Thr 7055	Thr	Glu	Arg	Val	Leu 7060	Gln	Gly	Leu	Leu	Lys 7065	Pro	Leu	Phe
Lys	Ser 7070	Thr	Ser	Val		Pro 7075	Leu	Tyr	Ser	Gly	Cys 7080	Arg	Leu	Thr
Leu	Leu 7085	Arg	Pro	Glu	Lys	His 7090	Gly	Ala	Ala	Thr	Gly 7095	Val	Asp	Ala
Ile	Cys 7100	Thr	Leu	Arg	Leu	Asp 7105	Pro	Thr	Gly	Pro	Gly 7110	Leu	Asp	Arg
Glu	Xaa 7115	Leu	Tyr	Trp	Glu	Leu 7120	Ser	Xaa	Leu	Thr	Xaa 7125	Xaa	Ile	Xaa
Glu	Leu 7130	Gly	Pro	Tyr	Xaa	Leu 7135	Asp	Arg	Xaa	Ser	Leu 7140	Tyr	Val	Asn
Gly	Phe 7145	Xaa	Xaa	Xaa	Xaa	Xaa 7150	Xaa	Xaa	Xaa	Thr	Ser 7155	Thr	Pro	Gly
Thr	Ser 7160	Xaa	Val	Xaa	Leu	Xaa 7165	Thr	Ser	Gly	Thr	Pro 7170	Xaa	Xaa	Xaa
Pro		Vaa	Th w	٧٠٠	Yaa	Xaa	Pro	Leu	Leu	Xaa	Pro	Phe	Thr	Leu
	Xaa 7175	Naa	TIIT	лаа	Naa	7180					7185			

Pro	Gly 7205	Ser	Arg	Lys	Phe	Asn 7210	Thr	Thr	Glu	Arg	Val 7215	Leu	Gln	Gly
Leu	Leu 7220	Xaa	Pro	Xaa	Phe	Lys 7225	Xaa	Thr	Ser	Val	Gly 7230	Xaa	Leu	Tyr
Ser	Gly 7235	Cys	Arg	Leu	Thr	Leu 7240	Leu	Arg	Xaa	Glu	Lys 7245	Xaa	Xaa	Ala
Ala	Thr 7250	Xaa	Val	Asp	Xaa	Xaa 7255	Cys	Xaa	Xaa	Xaa	Xaa 7260	Asp	Pro	Xaa
Xaa	Pro 7265	Gly	Leu	Asp	Arg	Glu 7270	Xaa	Leu	Tyr	Trp	Glu 7275	Leu	Ser	Xaa
Leu	Thr 7280	Xaa	Xaa	Ile	Xaa	Glu 7285	Leu	Gly	Pro	Tyr	Xaa 7290	Leu	Asp	Arg
Xaa	Ser 7295	Leu	Tyr	Val	Asn	Gly 7300	Phe	Thr	His	Arg	Thr 7305	Ser	Val	Pro
Thr	Thr 7310	Ser	Thr	Pro	Gly	Thr 7315	Ser	Thr	Val	His	Leu 7320	Ala	Thr	Ser
Gly	Thr 7325	Pro	Ser	Ser	Leu	Pro 7330	Gly	His	Thr	Ala	Pro 7335	Val	Pro	Leu
Leu	Ile 7340	Pro	Phe	Thr	Leu	Asn 7345	Phe	Thr	Ile	Thr	Asn 7350	Leu	Gln	Tyr
Glu	Glu 7355	Asp	Met	His	Arg	Pro 7360	Gly	Ser	Arg	Lys	Phe 7365	Asn	Thr	Thr
Glu	Arg 7370	Val	Leu	Gln	Gly	Leu 7375	Leu	Ser	Pro	Ile	Phe 7380	Lys	Asn	Ser
Ser	Val 7385	Gly	Pro	Leu	Tyr	Ser 7390	Gly	Cys	Arg	Leu	Thr 7395	Ser	Leu	Arg
Pro	Glu 7400	Lys	Asp	Gly	Ala	Ala 7405	Thr	Gly	Met	Asp	Ala 7410	Val	Cys	Leu
Tyr	His 7415		Asn	Pro	Lys	Arg 7420	Pro	Gly	Leu	Asp	Arg 7425		Gln	Leu
Tyr	Cys 7430		Leu	Ser	Gln	Leu 7435	Thr	His	Asn	Ile	Thr 7440	Glu	Leu	Gly
Pro	Tyr 7445		Leu	Asp	Arg	Asp 7450	Ser	Leu	Tyr	Val	Asn 7455	Gly	Phe	Thr
His	Gln 7460	Asn	Ser	Val	Pro	Thr 7465	Thr	Ser	Thr	Pro	Gly 7470		Ser	Thr
Val	Tyr 7475	_	Ala	Thr	Thr	Gly 7480	Thr	Pro	Ser	Ser	Phe 7485	Pro	Gly	His
Thr	Xaa	Xaa	Xaa	Pro	Leu	Leu	Xaa	Pro	Phe	Thr	Leu	Asn	Phe	Thr

	7490					7495					7500			
Ile	Thr 7505	Asn	Leu	Xaa	Tyr	Glu 7510	Glu	Xaa	Met	Xaa	Xaa 7515	Pro	Gly	Ser
Arg	Lys 7520	Phe	Asn	Thr	Thr	Glu 7525	Arg	Val	Leu	Gln	Gly 7530	Leu	Leu	Xaa
Pro	Xaa 7535	Phe	Lys	Xaa	Thr	Ser 7540	Val	Gly	Xaa	Leu	Tyr 7545	Ser	Gly	Cys
Arg	Leu 7550	Thr	Leu	Leu	Arg	Xaa 7555	Glu	Lys	Xaa	Xaa	Ala 7560	Ala	Thr	Xaa
Val	Asp 7565	Xaa	Xaa	Cys	Xaa	Xaa 7570	Xaa	Xaa	Asp	Pro	Xaa 7575	Xaa	Pro	Gly
Leu	Asp 7580	Arg	Glu	Xaa	Leu	Tyr 7585	Trp	Glu	Leu	Ser	Xaa 7590	Leu	Thr	Xaa
Xaa	Ile 7595	Xaa	Glu	Leu	_	Pro 7600	Tyr	Xaa	Leu	Asp	Arg 7605	Xaa	Ser	Leu
Туг	Val 7610	Asn	Gly	Phe	Thr	His 7615	Trp	Ser	Ser	Gly	Leu 7620	Thr	Thr	Ser
Thr	Pro 7625	Trp	Thr	Ser	Thr	Val 7630	Asp	Leu	Gly	Thr	Ser 7635	Gly	Thr	Pro
Ser	Pro 7640	Val	Pro	Ser	Pro	Thr 7645	Thr	Ala	Gly	Pro	Leu 7650	Leu	Val	Pro
Phe	Thr 7655	Leu	Asn	Phe	Thr	Ile 7660	Thr	Asn	Leu	Gln	Tyr 7665	Glu	Glu	Asp
Met	His 7670	Arg	Pro	Gly	Ser	Arg 7675	Lys	Phe	Asn	Ala	Thr 7680	Glu	Arg	Val
Leu	Gln 7685	Gly	Leu	Leu	Ser	Pro 7690	Ile	Phe	Lys	Asn	Thr 7695	Ser	Val	Gly
Pro	Leu 7700	Tyr	Ser	Gly	Cys	Arg 7705	Leu	Thr	Leu	Leu	Arg 7710	Pro	Glu	Lys
Gln	Glu 7715	Ala	Ala	Thr	Gly	Val 7720	Asp	Thr	Ile	Cys	Thr 7725	His	Arg	Val
Asp	Pro 7730	Ile	Gly	Pro	Gly	Leu 7735	Asp	Arg	Glu	Xaa	Leu 7740	Tyr	Trp	Glu
Leu	Ser 7745	Xaa	Leu	Thr	Xaa	Xaa 7750	Ile	Xaa	Glu	Leu	Gly 7755	Pro	Tyr	Xaa
Leu	Asp 7760	Arg	Xaa	Ser	Leu	Tyr 7765	Val	Asn	Gly	Phe	Xaa 7770	Xaa	Xaa	Xaa
Xaa	Xaa 7775	Xaa	Xaa	Thr	Ser	Thr 7780	Pro	Gly	Thr	Ser	Xaa 7785	Val	Xaa	Leu

Xaa	Thr 7790	Ser	Gly	Thr	Pro	Xaa 7795	Xaa	Xaa	Pro	Xaa	Xaa 7800	Thr	Xaa	Xaa
Xaa	Pro 7805	Leu	Leu	Xaa	Pro	Phe 7810	Thr	Leu	Asn	Phe	Thr 7815	Ile	Thr	Asn
Leu	Xaa 7820	Tyr	Glu	Glu	Xaa	Met 7825	Xaa	Xaa	Pro	Gly	Ser 7830	Arg	Lys	Phe
Asn	Thr 7835	Thr	Glu	Arg	Val	Leu 7840	Gln	Gly	Leu	Leu	Xaa 7845	Pro	Xaa	Phe
Lys	Xaa 7850	Thr	Ser	Val	Gly	Xaa 7855	Leu	Tyr	Ser	Gly	Cys 7860	Arg	Leu	Thr
Leu	Leu 7865	Arg	Xaa	Glu	Lys	Xaa 7870		Ala	Ala	Thr	Xaa 7875	Val	Asp	Xaa
Xaa	Cys 7880	Xaa	Xaa	Xaa	Xaa	Asp 7885		Xaa	Xaa	Pro	Gly 7890	Leu	Asp	Arg
Glu	Xaa 7895	Leu	Tyr	Trp	Glu	Leu 7900	Ser	Xaa	Leu	Thr	Xaa 7905	Xaa	Ile	Xaa
Glu	Leu 7910	Gly	Pro	Tyr	Xaa	Leu 7915	Asp	Arg	Xaa	Ser	Leu 7920	Tyr	Val	Asn
Gly	Phe 7925	Thr	His	Arg	Ser	Phe 7930	Gly	Leu	Thr	Thr	Ser 7935	Thr	Pro	Trp
Thr	Ser 7940	Thr	Val	Asp	Leu	Gly 7945	Thr	Ser	Gly	Thr	Pro 7950	Ser	Pro	Val
						7945					7950			
Pro	7940 Ser	Pro	Thr	Thr	Ala	7945 Gly 7960	Pro	Leu	Leu	Val	7950 Pro 7965	Phe	Thr	Leu
Pro Asn	7940 Ser 7955 Phe	Pro Thr	Thr	Thr Thr	Ala Asn	7945 Gly 7960 Leu 7975	Pro Gln	Leu Tyr	Leu Glu	Val Glu	7950 Pro 7965 Asp 7980	Phe Met	Thr His	Leu Arg
Pro Asn Pro	7940 Ser 7955 Phe 7970 Gly	Pro Thr Ser	Thr Ile Arg	Thr Thr Lys	Ala Asn Phe	7945 Gly 7960 Leu 7975 Asn 7990	Pro Gln Thr	Leu Tyr Thr	Leu Glu Glu	Val Glu Arg	7950 Pro 7965 Asp 7980 Val 7995	Phe Met Leu	Thr His Gln	Leu Arg Gly
Pro Asn Pro Leu	7940 Ser 7955 Phe 7970 Gly 7985 Leu	Pro Thr Ser	Thr Ile Arg	Thr Thr Lys Leu	Ala Asn Phe	7945 Gly 7960 Leu 7975 Asn 7990 Arg 8005	Pro Gln Thr	Leu Tyr Thr	Leu Glu Glu Ser	Val Glu Arg Val	7950 Pro 7965 Asp 7980 Val 7995 Ser 8010	Phe Met Leu Ser	Thr His Gln Leu	Leu Arg Gly Tyr
Pro Asn Pro Leu Ser	7940 Ser 7955 Phe 7970 Gly 7985 Leu 8000	Pro Thr Ser Thr	Thr Ile Arg Pro	Thr Thr Lys Leu Leu	Ala Asn Phe Phe	7945 Gly 7960 Leu 7975 Asn 7990 Arg 8005 Leu 8020	Pro Gln Thr Asn Leu	Leu Tyr Thr Thr	Leu Glu Glu Ser Pro	Val Glu Arg Val	7950 Pro 7965 Asp 7980 Val 7995 Ser 8010 Lys 8025	Phe Met Leu Ser	Thr His Gln Leu Gly	Leu Arg Gly Tyr
Pro Asn Pro Leu Ser Ala	7940 Ser 7955 Phe 7970 Gly 7985 Leu 8000 Gly 8015 Thr	Pro Thr Ser Thr Cys	Thr Ile Arg Pro Arg Val	Thr Lys Leu Leu Asp	Ala Asn Phe Phe Ala	7945 Gly 7960 Leu 7975 Asn 7990 Arg 8005 Leu 8020 Val 8035	Pro Gln Thr Asn Leu Cys	Leu Tyr Thr Thr	Leu Glu Glu Ser Pro	Val Glu Arg Val Glu Arg	7950 Pro 7965 Asp 7980 Val 7995 Ser 8010 Lys 8025 Pro 8040	Phe Met Leu Ser Asp	Thr His Gln Leu Gly Pro	Leu Arg Gly Tyr Ala Lys
Pro Asn Pro Leu Ser Ala	7940 Ser 7955 Phe 7970 Gly 7985 Leu 8000 Gly 8015 Thr 8030 Pro	Pro Thr Ser Thr Cys Arg	Thr Ile Arg Pro Arg Val Leu	Thr Lys Leu Leu Asp	Ala Asn Phe Phe Thr Ala Arg	7945 Gly 7960 Leu 7975 Asn 7990 Arg 8005 Leu 8020 Val 8035 Glu 8050	Pro Gln Thr Asn Leu Cys	Leu Tyr Thr Thr Arg Thr	Leu Glu Glu Ser Pro His	Val Glu Arg Val Glu Arg	7950 Pro 7965 Asp 7980 Val 7995 Ser 8010 Lys 8025 Pro 8040 Glu	Phe Met Leu Ser Asp	Thr His Gln Leu Gly Pro	Leu Arg Gly Tyr Ala Lys

Xaa Thr 8090	Ser	Thr	Pro	Gly	Thr 8095	Ser	Xaa	Val	Xaa	Leu 8100	Xaa	Thr	Ser
Gly Thr 8105		Xaa	Xaa	Xaa	Pro 8110	Xaa	Xaa	Thr	Xaa	Xaa 8115	Xaa	Pro	Leu
Leu Xaa 8120	Pro	Phe	Thr	Leu	Asn 8125	Phe	Thr	Ile	Thr	Asn 8130	Leu	Xaa	Tyr
Glu Glu 8135		Met	Xaa	Xaa	Pro 8140	Gly	Ser	Arg	Lys	Phe 8145	Asn	Thr	Thr
Glu Arg 8150		Leu	Gln	Gly	Leu 8155		Xaa	Pro	Xaa	Phe 8160	Lys	Xaa	Thr
Ser Val 8165	Gly	Xaa	Leu	Tyr	Ser 8170	Gly	Cys	Arg	Leu	Thr 8175	Leu	Leu	Arg
Xaa Glu 8180		Xaa	Xaa	Ala	Ala 8185	Thr	Xaa	Val	Asp	Xaa 8190	Xaa	Cys	Xaa
Xaa Xaa 8195		Asp	Pro	Xaa	Xaa 8200		Gly	Leu	Asp	Arg 8205	Glu	Xaa	Leu
Tyr Trp 8210	Glu	Leu	Ser	Xaa	Leu 8215	Thr	Xaa	Xaa	Ile	Xaa 8220	Glu	Leu	Gly
Pro Tyr 8225	Xaa	Leu	Asp	Arg	Xaa 8230	Ser	Leu	Tyr	Val	Asn 8235	Gly	Phe	Thr
His Trp 8240		Pro	Val	Pro	Thr 8245	Ser	Ser	Thr	Pro	Gly 8250	Thr	Ser	Thr
Val Asp 8255	Leu	Gly	Ser	Gly	Thr 8260	Pro	Ser	Ser	Leu	Pro 8265	Ser	Pro	Thr
Thr Ala 8270		Pro	Leu	Leu	Val 8275	Pro	Phe	Thr		Asn 8280	Phe	Thr	Ile
Thr Asn 8285		Gln	Tyr	Gly	Glu 8290	-	Met	Gly	His	Pro 8295	Gly	Ser	Arg
Lys Phe 8300		Thr	Thr	Glu	Arg 8305	Val	Leu	Gln	Gly	Leu 8310	Leu	Gly	Pro
Ile Phe 8315	Lys	Asn	Thr	Ser	Val 8320	Gly	Pro	Leu	Tyr	Ser 8325	Gly	Cys	Arg
Leu Thr 8330	Ser	Leu	Arg	Ser	Glu 8335	Lys	Asp	Gly	Ala	Ala 8340	Thr	Gly	Val
Asp Ala 8345	Ile	Cys	Ile	His	His 8350	Leu	Asp	Pro	Lys	Ser 8355	Pro	Gly	Leu
Asp Arg 8360	Glu	Xaa	Leu	Tyr	Trp 8365	Glu	Leu	Ser	Xaa	Leu 8370	Thr	Xaa	Xaa
Ile Xaa	Glu	Leu	Gly	Pro	Tyr	Xaa	Leu	Asp	Arg	Хаа	Ser	Leu	Tyr

	8375					8380					8385			
Val	Asn 8390	Gly	Phe	Xaa	Xaa	Xaa 8395		Xaa	Xaa	Xaa	Xaa 8 4 00	Thr	Ser	Thr
Pro	Gly 8405	Thr	Ser	Xaa	Val	Xaa 8410	Leu	Xaa	Thr	Ser	Gly 8415	Thr	Pro	Xaa
Xaa	Xaa 8420	Pro	Xaa	Xaa		Xaa 8425	Xaa	Xaa	Pro	Leu	Leu 8430	Xaa	Pro	Phe
Thr	Leu 8435	Asn	Phe	Thr	Ile	Thr 8440		Leu	Xaa	Tyr	Glu 8445	Glu	Xaa	Met
Xaa	Xaa 8450	Pro	Gly	Ser	Arg	Lys 8455	Phe	Asn	Thr	Thr	Glu 8460	Arg	Val	Leu
Gln	Gly 8465	Leu	Leu	Xaa		Xaa 8470		Lys	Xaa	Thr	Ser 8475	Val	Gly	Xaa
Leu	Tyr 8480	Ser	Gly	Суѕ	Arg	Leu 8485		Leu	Leu	Arg	Xaa 8490	Glu	Lys	Xaa
Xaa	Ala 8495	Ala	Thr	Xaa	Val	Asp 8500	Xaa	Xaa	Cys	Xaa	Xaa 8505	Xaa	Xaa	Asp
Pro	Xaa 8510	Xaa	Pro	Gly		Asp 8515		Glu	Xaa	Leu	Tyr 8520	Trp	Glu	Leu
Ser	Xaa 8525	Leu	Thr	Xaa	Xaa	Ile 8530	Xaa	Glu	Leu	Gly	Pro 8535	Tyr	Xaa	Leu
Asp	Arg 8540	Xaa	Ser	Leu	Tyr	Val 8545	Asn	Gly	Phe	Thr	His 8550	Gln	Thr	Phe
Ala	Pro 8555	Asn	Thr	Ser	Thr	Pro 8560	Gly	Thr	Ser	Thr	Val 8565	Asp	Leu	Gly
Thr	Ser 8570	Gly	Thr	Pro	Ser	Ser 8575	Leu	Pro	Ser	Pro	Thr 8580	Ser	Ala	Gly
Pro	Leu 8585	Leu	Val	Pro	Phe	Thr 8590	Leu	Asn	Phe	Thr	Ile 8595	Thr	Asn	Leu
Gln	Tyr 8600	Glu	Glu	Asp	Met	His 8605	His	Pro	Gly	Ser	Arg 8610	Lys	Phe	Asn
Thr	Thr 8615	Glu	Arg	Val	Leu	Gln 8620	Gly	Leu	Leu	Gly	Pro 8625	Met	Phe	Lys
Asn	Thr 8630	Ser	Val	Gly	Leu	Leu 8635	Tyr	Ser	Gly	Cys	Arg 8640	Leu	Thr	Leu
Leu	Arg 8645	Pro	Glu	Lys	Asn	Gly 8650	Ala	Ala	Thr	Arg	Val 8655	Asp	Ala	Val
Cys	Thr 8660	His	Arg	Pro	Asp	Pro 8665	Lys	Ser	Pro	Gly	Leu 8670	Asp	Arg	Glu

Xaa	Leu 8675	Tyr	Trp	Glu	Leu	Ser 8680	Xaa	Leu	Thr	Xaa	Xaa 8685	Ile	Xaa	Glu
Leu	Gly 8690	Pro	Tyr	Xaa	Leu	Asp 8695		Xaa	Ser	Leu	Tyr 8700	Val	Asn	Gly
Phe	Xaa 8705	Xaa	Xaa	Xaa	Xaa	Xaa 8710	Xaa	Xaa	Thr	Ser	Thr 8715	Pro	Gly	Thr
Ser	Xaa 8720	Val	Xaa	Leu	Xaa	Thr 8725		Gly	Thr	Pro	Xaa 8730	Xaa	Xaa	Pro
Xaa	Xaa 8735	Thr	Xaa	Xaa	Xaa	Pro 8740	Leu	Leu	Xaa	Pro	Phe 8745	Thr	Leu	Asn
Phe	Thr 8750	Ile	Thr	Asn	Leu	Xaa 8755	Tyr	Glu	Glu	Xaa	Met 8760	Xaa	Xaa	Pro
Gly	Ser 8765	Arg	Lys		Asn	Thr 8770		Glu	Arg		Leu 8775	Gln	Gly	Leu
Leu	Lys 8780	Pro	Leu	Phe	Lys	Ser 8785	Thr	Ser	Val	Gly	Pro 8790	Leu	Tyr	Ser
Gly	Cys 8795	Arg	Leu	Thr	Leu	Leu 8800	Arg	Pro	Glu	Lys	Asp 8805	Gly	Val	Ala
Thr	Arg 8810	Val	Asp	Ala	Ile	Cys 8815	Thr	His	Arg		Asp 8820	Pro	Lys	Ile
Pro	Gly 8825	Leu	Asp	Arg	Gln	Gln 8830	Leu	Tyr	Trp	Glu	Leu 8835	Ser	Gln	Leu
Thr	His 8840	Ser	Ile	Thr	Glu	Leu 8845	Gly	Pro	Tyr	Thr	Leu 8850	Asp	Arg	Asp
Ser	Leu 8855	Tyr	Val	Asn	Gly	Phe 8860	Thr	Gln	Arg		Ser 8865	Val	Pro	Thr
Thr	Ser 8870	Thr	Pro	Gly	Thr	Phe 8875	Thr	Val	Gln	Pro	Glu 8880	Thr	Ser	Glu
Thr	Pro 8885	Ser	Ser	Leu	Pro	Gly 8890	Pro	Thr	Ala	Thr	Gly 8895	Pro	Val	Leu
Leu	Pro 8900	Phe	Thr	Leu	Asn	Phe 8905	Thr	Ile	Thr	Asn	Leu 8910	Gln	Tyr	Glu
Glu	Asp 8915	Met	His	Arg	Pro	Gly 8920	Ser	Arg	Lys	Phe	Asn 8925	Thr	Thr	Glu
Arg	Val 8930	Leu	Gln	Gly	Leu	Leu 8935	Met	Pro	Leu	Phe	Lys 8940	Asn	Thr	Ser
Val	Ser 8945	Ser	Leu	Tyr	Ser	Gly 8950	Cys	Arg	Leu	Thr	Leu 8955	Leu	Arg	Pro
Glu	Lys 8960	Asp	Gly	Ala	Ala	Thr 8965	Arg	Val	Asp	Ala	Val 8970	Cys	Thr	His

Arg	Pro 8975	Asp	Pro	Lys	Ser	Pro 8980	Gly	Leu	Asp	Arg	Glu 8985	Arg	Leu	Tyr
Trp	Lys 8990	Leu	Ser	Gln	Leu	Thr 8995	His	Gly	Ile	Thr	Glu 9000	Leu	Gly	Pro
Tyr	Thr 9005	Leu	Asp	Arg	His	Ser 9010	Leu	Tyr	Val	Asn	Gly 9015	Phe	Thr	His
Gln	Ser 9020	Ser	Met	Thr	Thr	Thr 9025	Arg	Thr	Pro	Asp	Thr 9030	Ser	Thr	Met
His	Leu 9035	Ala	Thr	Ser	Arg	Thr 9040	Pro	Ala	Ser	Leu	Ser 9045	Gly	Pro	Thr
Thr	Ala 9050	Ser	Pro	Leu	Leu	Val 9055	Leu	Phe	Thr	Ile	Asn 9060	Phe	Thr	Ile
Thr	Asn 9065	Leu	Arg	Tyr	Glu	Glu 9070	Asn	Met	His	His	Pro 9075	Gly	Ser	Arg
Lys	Phe 9080	Asn	Thr	Thr	Glu	Arg 9085	Val	Leu	Gln	Gly	Leu 9090	Leu	Arg	Pro
Val	Phe 9095	Lys	Asn	Thr	Ser	Val 9100	Gly	Pro	Leu	Tyr	Ser 9105	Gly	Cys	Arg
Leu	Thr 9110	Leu	Leu	Arg	Pro	Lys 9115	Lys	Asp	Gly	Ala	Ala 9120	Thr	Lys	Val
Asp	Ala 9125	Ile	Cys	Thr	Tyr	Arg 9130	Pro	Asp	Pro	Lys	Ser 9135	Pro	Gly	Leu
Asp	Arg 9140	Glu	Gln	Leu	Tyr	Trp 9145	Glu	Leu	Ser	Gln	Leu 9150	Thr	His	Ser
Ile	Thr 9155	Glu	Leu	Gly	Pro	Tyr 9160	Thr	Gln	Asp	Arg	Asp 9165	Ser	Leu	Tyr
Asn	Val 9170	Gly	Phe	Thr	Gln	Arg 9175	Ser	Ser	Val	Pro	Thr 9180	Thr	Ser	Val
Pro	Gly 9185	Thr	Pro	Thr	Val	Asp 9190	Leu	Gly	Thr	Ser	Gly 9195		Pro	Val
Ser	Lys 9200	Pro	Gly	Pro	Ser	Ala 9205	Ala	Ser	Pro	Leu	Leu 9210	Val	Leu	Phe
Thr	Leu 9215	Asn	Gly	Thr	Ile	Thr 9220	Asn	Leu	Arg	Tyr	Glu 9225	Glu	Asn	Met
Gln	His 9230	Pro	Gly	Ser	Arg	Lys 9235	Phe	Asn	Thr	Thr	Glu 9240	Arg	Val	Leu
Gln	Gly 9245	Leu	Leu	Arg	Ser	Leu 9250	Phe	Lys	Ser	Thr	Ser 9255	Val	Gly	Pro
Leu	Tyr	Ser	Gly	Cys	Arg	Leu	Thr	Leu	Leu	Arg	Pro	Glu	Lys	Asp

	9260					9265					9270			
Gly	Thr 9275	Ala	Thr	Gly	Val	Asp 9280	Ala	Ile	Cys	Thr	His 9285	His	Pro	Asp
Pro	Lys 9290	Ser	Pro	Arg	Leu	Asp 9295	Arg	Glu	Gln	Leu	Tyr 9300	Trp	Glu	Leu
Ser	Gln 9305	Leu	Thr	His	Asn	Ile 9310	Thr	Glu	Leu	Gly	His 9315	Tyr	Ala	Leu
Asp	Asn 9320	Asp	Ser	Leu	Phe	Val 9325		Gly	Phe	Thr	His 9330	Arg	Ser	Ser
Val	Ser 9335	Thr	Thr	Ser	Thr	Pro 9340	Gly	Thr	Pro	Thr	Val 9345	Tyr	Leu	Gly
Ala	Ser 9350	Lys	Thr	Pro		Ser 9355	Ile	Phe	Gly	Pro	Ser 9360	Ala	Ala	Ser
His	Leu 9365	Leu	Ile	Leu	Phe	Thr 9370	Leu	Asn	Phe	Thr	Ile 9375	Thr	Asn	Leu
Arg	Tyr 9380	Glu	Glu	Asn	Met	Trp 9385	Pro	Gly	Ser	Arg	Lys 9390	Phe	Asn	Thr
Thr	Glu 9395	Arg	Val	Leu	Gln	Gly 9400	Leu	Leu	Arg	Pro	Leu 9405	Phe	Lys	Asn
Thr	Ser 9410	Val	Gly	Pro	Leu	Tyr 9415	Ser	Gly	Ser	Arg	Leu 9420	Thr	Leu	Leu
Arg	Pro 9425	Glu	Lys	Asp	Gly	Glu 9430	Ala	Thr	Gly	Val	Asp 9435	Ala	Ile	Cys
Thr	His 9440	Arg	Pro	Asp	Pro	Thr 9445	Gly	Pro	Gly	Leu	Asp 9450	Arg	Glu	Gln
Leu	Tyr 9455	Leu	Glu	Leu	Ser	Gln 9460	Leu	Thr	His	Ser	Ile 9465	Thr	Glu	Leu
Gly	Pro 9470	Tyr	Thr	Leu	Asp	Arg 9475	Asp	Ser	Leu	Tyr	Val 9480	Asn	Gly	Phe
Thr	His 9485	Arg	Ser	Ser	Val	Pro 9490	Thr	Thr	Ser	Thr	Gly 9495	Val	Val	Ser
Glu	Glu 9500	Pro	Phe	Thr	Leu	Asn 9505	Phe	Thr	Ile	Asn	Asn 9510	Leu	Arg	Tyr
Met	Ala 9515	Asp	Met	Gly	Gln	Pro 9520	Gly	Ser	Leu	Lys	Phe 9525	Asn	Ile	Thr
Asp	Asn 9530	Val	Met	Lys	His	Leu 9535	Leu	Ser	Pro	Leu	Phe 9540	Gln	Arg	Ser
Ser	Leu 9545	Gly	Ala	Arg	Tyr	Thr 9550	Gly	Cys	Arg	Val	Ile 9555	Ala	Leu	Arg

- Ser Val Lys Asn Gly Ala Glu Thr Arg Val Asp Leu Leu Cys Thr 9560

 Tyr Leu Gln Pro Leu Ser Gly Pro Gly Leu Pro Ile Lys Gln Val 9575

 She Was Gle Lys Gle Gle File Wie Gle Like The Chemical Colors of the Chemi
- Phe His Glu Leu Ser Gln Gln Thr His Gly Ile Thr Arg Leu Gly 9590 9595 9600
- Pro Tyr Ser Leu Asp Lys Asp Ser Leu Tyr Leu Asn Gly Tyr Asn 9605 9610 9615
- Glu Pro Gly Leu Asp Glu Pro Pro Thr Thr Pro Lys Pro Ala Thr 9620 9625 9630
- Thr Phe Leu Pro Pro Leu Ser Glu Ala Thr Thr Ala Met Gly Tyr 9635 9640 9645
- His Leu Lys Thr Leu Thr Leu Asn Phe Thr Ile Ser Asn Leu Gln 9650 9655 9660
- Tyr Ser Pro Asp Met Gly Lys Gly Ser Ala Thr Phe Asn Ser Thr 9665 9670 9675
- Glu Gly Val Leu Gln His Leu Leu Arg Pro Leu Phe Gln Lys Ser 9680 9685 9690
- Ser Met Gly Pro Phe Tyr Leu Gly Cys Gln Leu Ile Ser Leu Arg 9695 9700 9705
- Pro Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Thr Thr Cys Thr 9710 9715 9720
- Tyr His Pro Asp Pro Val Gly Pro Gly Leu Asp Ile Gln Gln Leu 9725 9730 9735
- Tyr Trp Glu Leu Ser Gln Leu Thr His Gly Val Thr Gln Leu Gly 9740 9745 9750
- Phe Tyr Val Leu Asp Arg Asp Ser Leu Phe Ile Asn Gly Tyr Ala 9755 9760 9765
- Pro Gln Asn Leu Ser Ile Arg Gly Glu Tyr Gln Ile Asn Phe His 9770 9775 9780
- Ile Val Asn Trp Asn Leu Ser Asn Pro Asp Pro Thr Ser Ser Glu 9785 9790 9795

Tyr

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- <211> 1422
- <212> DNA
- <213> Homo sapiens

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atctccctca ggcctgagaa	ggatggggca	gccactggtg	tggacaccac	ctgcacctac	240
caccetgace etgtgggeee	cgggctggac	atacagcagc	tttactggga	gctgagtcag	300
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tcattccatt ggctgggctc	cacctaccag	ttggtggaca	tccatgtgac	agaaatggag	720
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tatttttctg actgtcaagt	ttcaacattc	aggtctgtcc	ccaacaggca	ccacaccggg	960
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tgcctgatct gcggtgtcct	ggtgaccacc	cgccggcgga	agaaggaagg	agaatacaac	1260
gtccagcaac agtgcccagg	ctactaccag	tcacacctag	acctggagga	tctgcaatga	1320
ctggaacttg ccggtgcctg	gggtgccttt	ccccagcca	gggtccaaag	aagcttggct	1380
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<211> 439

<212> PRT

<213> Homo sapiens

<400> 148

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Leu Asn Phe Thr Ile Thr Asn Leu Pro Tyr Ser Gln Asp Lys Ala Gln

Pro Gly Thr Thr Asn Tyr Gln Arg Asn Lys Arg Asn Ile Glu Asp Ala 275 280 285

265

260

Leu Asn Gln Leu Phe Arg Asn Ser Ser Ile Lys Ser Tyr Phe Ser Asp 290 295 300

Cys Gln Val Ser Thr Phe Arg Ser Val Pro Asn Arg His His Thr Gly 305 310 315 320

Val Asp Ser Leu Cys Asn Phe Ser Pro Leu Ala Arg Arg Val Asp Arg 325 330 335

Val Ala Ile Tyr Glu Glu Phe Leu Arg Met Thr Arg Asn Gly Thr Gln
340 345 350

Leu Gln Asn Phe Thr Leu Asp Arg Ser Ser Val Leu Val Asp Gly Tyr 355 360 365

Ser Pro Asn Arg Asn Glu Pro Leu Thr Gly Asn Ser Asp Leu Pro Phe 370 375 380

Trp Ala Val Ile Leu Ile Gly Leu Ala Gly Leu Leu Gly Leu Ile Thr 385 390 395 400

Cys Leu Ile Cys Gly Val Leu Val Thr Thr Arg Arg Arg Lys Lys Glu 405 410 415

Gly Glu Tyr Asn Val Gln Gln Gln Cys Pro Gly Tyr Tyr Gln Ser His 420 425 430

Leu Asp Leu Glu Asp Leu Gln 435

<210> 149

<211> 1799

<212> PRT

<213> Homo sapiens

<400> 149

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Ala His Arg Gly Thr Ile Arg Pro Val Lys Gly Pro Gln Thr Ser Thr 20 25 30

Ser Pro Ala Ser Pro Lys Gly Leu His Thr Gly Gly Thr Lys Arg Met 35 40 45

Glu Thr Thr Thr Thr Ala Leu Lys Thr Thr Thr Thr Ala Leu Lys Thr 50 55 60

Thr Ser Arg Ala Thr Leu Thr Thr Ser Val Tyr Thr Pro Thr Leu Gly 65 70 75 80

Thr Leu Thr Pro Leu Asn Ala Ser Arg Gln Met Ala Ser Thr Ile Leu

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Thr	Glu	Met	Met 100	Ile	Thr	Thr	Pro	Tyr 105	Val	Phe	Pro	Asp	Val 110	Pro	Glu
Thr	Thr	Ser 115	Ser	Leu	Ala	Thr	Ser 120	Leu	Gly	Ala	Glu	Thr 125	Ser	Thr	Ala
Leu	Pro 130	Arg	Thr	Thr	Pro	Ser 135	Val	Leu	Asn	Arg	Glu 140	Ser	Glu	Thr	Thr
Ala 145	Ser	Leu	Val	Ser	Arg 150	Ser	Gly	Ala	Glu	Arg 155	Ser	Pro	Val	Ile	Gln 160
Thr	Leu	Asp	Val	Ser 165	Ser	Ser	Glu	Pro	Asp 170	Thr	Thr	Ala	Ser	Trp 175	Val
Ile	His	Pro	Ala 180	Glu	Thr	Ile	Pro	Thr 185	Val	Ser	Lys	Thr	Thr 190	Pro	Asn
Phe	Phe	His 195	Ser	Glu	Leu	Asp	Thr 200	Val	Ser	Ser	Thr	Ala 205	Thr	Ser	His
Gly	Ala 210	Asp	Val	Ser	Ser	Ala 215	Ile	Pro	Thr	Asn	Ile 220	Ser	Pro	Ser	Glu
Leu 225	Asp	Ala	Leu	Thr	Pro 230	Leu	Val	Thr	Ile	Ser 235	Gly	Thr	Asp	Thr	Ser 240
Thr	Thr	Phe	Pro	Thr 245	Leu	Thr	Lys	Ser	Pro 250	His	Glu	Thr	Glu	Thr 255	Arç
Thr	Thr	Trp	Leu 260	Thr	His	Pro	Ala	Glu 265	Thr	Ser	Ser	Thr	Ile 270	Pro	Arc
Thr	Ile	Pro 275	Asn	Phe	Ser	His	His 280	Glu	Ser	Asp	Ala	Thr 285	Pro	Ser	Il€
Ala	Thr 290	Ser	Pro	Gly	Ala	Glu 295	Thr	Ser	Ser	Ala	Ile 300	Pro	Ile	Met	Thr
Val 305	Ser	Pro	Gly	Ala	Glu 310	Asp	Leu	Val	Thr	Ser 315	Gln	Val	Thr	Ser	Ser 320
Gly	Thr	Asp	Arg	Asn 325	Met	Thr	Ile	Pro	Thr 330	Leu	Thr	Leu	Ser	Pro 335	Gly
Glu	Pro	Lys	Thr 340	Ile	Ala	Ser	Leu	Val 345	Thr	His	Pro	Glu	Ala 350	Gln	Thr
Ser	Ser	Ala 355	Ile	Pro	Thr	Ser	Thr 360	Ile	Ser	Pro	Ala	Val 365	Ser	Arg	Leu
Val	Thr 370	Ser	Met	Val	Thr	Ser 375	Leu	Ala	Ala	Lys	Thr 380	Ser	Thr	Thr	Asr
Arg 385	Ala	Leu	Thr	Asn	Ser 390	Pro	Gly	Glu	Pro	Ala 395	Thr	Thr	Val	Ser	Leu 400

Val Thr His Pro Ala Gln Thr Ser Pro Thr Val Pro Trp Thr Thr Ser 405 410 Ile Phe Phe His Ser Lys Ser Asp Thr Thr Pro Ser Met Thr Thr Ser 425 His Gly Ala Glu Ser Ser Ser Ala Val Pro Thr Pro Thr Val Ser Thr 440 Glu Val Pro Gly Val Val Thr Pro Leu Val Thr Ser Ser Arg Ala Val 455 Ile Ser Thr Thr Ile Pro Ile Leu Thr Leu Ser Pro Gly Glu Pro Glu 475 470 Thr Thr Pro Ser Met Ala Thr Ser His Gly Glu Glu Ala Ser Ser Ala 485 Ile Pro Thr Pro Thr Val Ser Pro Gly Val Pro Gly Val Val Thr Ser 505 Leu Val Thr Ser Ser Arg Ala Val Thr Ser Thr Thr Ile Pro Ile Leu 520 Thr Phe Ser Leu Gly Glu Pro Glu Thr Thr Pro Ser Met Ala Thr Ser His Gly Thr Glu Ala Gly Ser Ala Val Pro Thr Val Leu Pro Glu Val 550 545 Pro Gly Met Val Thr Ser Leu Val Ala Ser Ser Arg Ala Val Thr Ser Thr Thr Leu Pro Thr Leu Thr Leu Ser Pro Gly Glu Pro Glu Thr Thr 580 Pro Ser Met Ala Thr Ser His Gly Ala Glu Ala Ser Ser Thr Val Pro Thr Val Ser Pro Glu Val Pro Gly Val Val Thr Ser Leu Val Thr Ser 610 615 Ser Ser Gly Val Asn Ser Thr Ser Ile Pro Thr Leu Ile Leu Ser Pro 630 635 Gly Glu Leu Glu Thr Thr Pro Ser Met Ala Thr Ser His Gly Ala Glu 645 Ala Ser Ser Ala Val Pro Thr Pro Thr Val Ser Pro Gly Val Ser Gly 660 665 Val Val Thr Pro Leu Val Thr Ser Ser Arg Ala Val Thr Ser Thr Thr 675 680 685 Ile Pro Ile Leu Thr Leu Ser Ser Glu Pro Glu Thr Thr Pro Ser 695 Met Ala Thr Ser His Gly Val Glu Ala Ser Ser Ala Val Leu Thr Val 710 715

- Ser Pro Glu Val Pro Gly Met Val Thr Ser Leu Val Thr Ser Ser Arg
 725 730 735
- Ala Val Thr Ser Thr Thr Ile Pro Thr Leu Thr Ile Ser Ser Asp Glu 740 745 750
- Pro Glu Thr Thr Ser Leu Val Thr His Ser Glu Ala Lys Met Ile 755 760 765
- Ser Ala Ile Pro Thr Leu Ala Val Ser Pro Thr Val Gln Gly Leu Val 770 780
- Thr Ser Leu Val Thr Ser Ser Gly Ser Glu Thr Ser Ala Phe Ser Asn 785 790 795 800
- Leu Thr Val Ala Ser Ser Gln Pro Glu Thr Ile Asp Ser Trp Val Ala 805 810 815
- His Pro Gly Thr Glu Ala Ser Ser Val Val Pro Thr Leu Thr Val Ser 820 825 830
- Thr Gly Glu Pro Phe Thr Asn Ile Ser Leu Val Thr His Pro Ala Glu 835 840 845
- Ser Ser Ser Thr Leu Pro Arg Thr Thr Ser Arg Phe Ser His Ser Glu 850 855
- Leu Asp Thr Met Pro Ser Thr Val Thr Ser Pro Glu Ala Glu Ser Ser 865 870 875 880
- Ser Ala Ile Ser Thr Thr Ile Ser Pro Gly Ile Pro Gly Val Leu Thr 885 890 895
- Ser Leu Val Thr Ser Ser Gly Arg Asp Ile Ser Ala Thr Phe Pro Thr 900 905 910
- Val Pro Glu Ser Pro His Glu Ser Glu Ala Thr Ala Ser Trp Val Thr 915 920 925
- His Pro Ala Val Thr Ser Thr Thr Val Pro Arg Thr Thr Pro Asn Tyr 930 935 940
- Ser His Ser Glu Pro Asp Thr Thr Pro Ser Ile Ala Thr Ser Pro Gly 945 950 955 960
- Ala Glu Ala Thr Ser Asp Phe Pro Thr Ile Thr Val Ser Pro Asp Val 965 970 975
- Pro Asp Met Val Thr Ser Gln Val Thr Ser Ser Gly Thr Asp Thr Ser 980 985 990
- Ile Thr Ile Pro Thr Leu Thr Leu Ser Ser Gly Glu Pro Glu Thr Thr 995 1000 1005
- Thr Ser Phe Ile Thr Tyr Ser Glu Thr His Thr Ser Ser Ala Ile 1010 1015 1020
- Pro Thr Leu Pro Val Ser Pro Gly Ala Ser Lys Met Leu Thr Ser

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Leu	Val 1040	Ile	Ser	Ser	Gly	Thr 1045	Asp	Ser	Thr	Thr	Thr 1050	Phe	Pro	Thr
Leu	Thr 1055	Glu	Thr	Pro	Tyr	Glu 1060	Pro	Glu	Thr	Thr	Ala 1065	Ile	Gln	Leu
Ile	His 1070	Pro	Ala	Glu	Thr	Asn 1075	Thr	Met	Val	Pro	Arg 1080	Thr	Thr	Pro
Lys	Phe 1085	Ser	His	Ser	Lys	Ser 1090	Asp	Thr	Thr	Leu	Pro 1095	Val	Ala	Ile
Thr	Ser 1100	Pro	Gly	Pro	Glu	Ala 1105	Ser	Ser	Ala	Val	Ser 1110	Thr	Thr	Thr
Ile	Ser 1115	Pro	Asp	Met	Ser	Asp 1120		Val	Thr	Ser	Leu 1125	Val	Pro	Ser
Ser	Gly 1130	Thr	Asp	Thr	Ser	Thr 1135	Thr	Phe	Pro	Thr	Leu 1140	Ser	Glu	Thr
Pro	Tyr 1145	Glu	Pro	Glu	Thr	Thr 1150	Ala	Thr	Trp	Leu	Thr 1155	His	Pro	Ala
Glu	Thr 1160	Ser	Thr	Thr	Val	Ser 1165	Gly	Thr	Ile	Pro	Asn 1170	Phe	Ser	His
Arg	Gly 1175	Ser	Asp	Thr	Ala	Pro 1180	Ser	Met	Val	Thr	Ser 1185	Pro	Gly	Val
Asp	Thr 1190	Arg	Ser	Gly	Val	Pro 1195	Thr	Thr	Thr	Ile	Pro 1200	Pro	Ser	Ile
Pro	Gly 1205	Val	Val	Thr		Gln 1210	Val	Thr	Ser	Ser	Ala 1215	Thr	Asp	Thr
Ser	Thr 1220	Ala	Ile	Pro	Thr	Leu 1225	Thr	Pro	Ser	Pro	Gly 1230	Glu	Pro	Glu
Thr	Thr 1235	Ala	Ser	Ser	Ala	Thr 1240	His	Pro	Gly	Thr	Gln 1245	Thr	Gly	Phe
Thr	Val 1250	Pro	Ile	Arg	Thr	Val 1255	Pro	Ser	Ser	Glu	Pro 1260	Asp	Thr	Met
Ala	Ser 1265	Trp	Val	Thr	His	Pro 1270	Pro	Gln	Thr	Ser	Thr 1275	Pro	Val	Ser
Arg	Thr 1280	Thr	Ser	Ser	Phe	Ser 1285	His	Ser	Ser	Pro	Asp 1290	Ala	Thr	Pro
Val	Met 1295	Ala	Thr	Ser	Pro	Arg 1300	Thr	Glu	Ala	Ser	Ser 1305	Ala	Val	Leu
Thr	Thr 1310	Ile	Ser	Pro	Gly	Ala 1315	Pro	Glu	Met	Val	Thr 1320	Ser	Gln	Ile

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His	Ser 1340	Pro	Gly	Met	Pro	Glu 1345	Thr	Thr	Ala	Leu	Leu 1350	Ser	Thr	His
Pro	Arg 1355	Thr	Glu	Thr	Ser	Lys 1360	Thr	Phe	Pro	Ala	Ser 1365	Thr	Val	Phe
Pro	Gln 1370	Val	Ser	Glu	Thr	Thr 1375	Ala	Ser	Leu	Thr	Ile 1380	Arg	Pro	Gly
Ala	Glu 1385	Thr	Ser	Thr	Ala	Leu 1390	Pro	Thr	Gln	Thr	Thr 1395	Ser	Ser	Leu
Phe	Thr 1400	Leu	Leu	Val	Thr	Gly 1405	Thr	Ser	Arg	Val	Asp 1410	Leu	Ser	Pro
Thr	Ala 1415	Ser	Pro	Gly	Val	Ser 1420	Ala	Lys	Thr	Ala	Pro 1425	Leu	Ser	Thr
His	Pro 1430	Gly	Thr	Glu	Thr	Ser 1435		Met	Ile	Pro	Thr 1440	Ser	Thr	Leu
Ser	Leu 1445	Gly	Leu	Leu	Glu	Thr 1450	Thr	Gly	Leu	Leu	Ala 1455	Thr	Ser	Ser
Ser	Ala 1460	Glu	Thr	Ser	Thr	Ser 1465	Thr	Leu	Thr	Leu	Thr 1470	Val	Ser	Pro
Ala	Val 1475	Ser	Gly	Leu	Ser	Ser 1480	Ala	Ser	Ile	Thr	Thr 1485	Asp	Lys	Pro
01.	_		Thr	Ser	Trp	Asn	mb ~	C1	Thr	Ser	Pro	Ser	Val	Thr
GIN	Thr 1490	Val	1111			1495	TIIL	GIU			1500			
	1490					1495				Val	1500 Thr 1515			Thr
Ser	1490 Val	Gly	Pro	Pro	Glu	1495 Phe 1510	Ser	Arg	Thr		Thr	Gly	Thr	
Ser Met	1490 Val 1505 Thr 1520	Gly	Pro Ile	Pro Pro	Glu Ser	1495 Phe 1510 Glu 1525	Ser Met	Arg Pro	Thr Thr	Pro	Thr 1515 Pro	Gly	Thr Thr	Ser
Ser Met His	1490 Val 1505 Thr 1520 Gly 1535	Gly Leu Glu	Pro Ile Gly	Pro Pro Val	Glu Ser Ser	1495 Phe 1510 Glu 1525 Pro 1540	Ser Met Thr	Arg Pro Thr	Thr Thr	Pro Leu	Thr 1515 Pro 1530 Arg	Gly Lys Thr	Thr Thr Thr	Ser Met
Ser Met His	1490 Val 1505 Thr 1520 Gly 1535 Glu 1550	Gly Leu Glu Ala	Pro Ile Gly Thr	Pro Pro Val Asn	Glu Ser Ser Leu	1495 Phe 1510 Glu 1525 Pro 1540 Ala 1555	Ser Met Thr	Arg Pro Thr	Thr Thr Ile	Pro Leu Ser	Thr 1515 Pro 1530 Arg 1545 Ser	Gly Lys Thr	Thr Thr Thr	Ser Met Val
Ser Met His Val	1490 Val 1505 Thr 1520 Gly 1535 Glu 1550 Lys	Gly Leu Glu Ala Thr	Pro Ile Gly Thr	Pro Pro Val Asn	Glu Ser Ser Leu Thr	1495 Phe 1510 Glu 1525 Pro 1540 Ala 1555 Phe 1570	Ser Met Thr Thr	Arg Pro Thr Thr	Thr Thr Gly Leu	Pro Leu Ser	Thr 1515 Pro 1530 Arg 1545 Ser 1560	Gly Lys Thr Pro	Thr Thr Thr	Ser Met Val
Ser Met His Val Ala	1490 Val 1505 Thr 1520 Gly 1535 Glu 1550 Lys 1565 Pro 1580	Gly Leu Glu Ala Thr	Pro Ile Gly Thr Thr	Pro Pro Val Asn Thr	Glu Ser Ser Leu Thr	1495 Phe 1510 Glu 1525 Pro 1540 Ala 1555 Phe 1570 Gly 1585	Ser Met Thr Thr Asn Met	Arg Pro Thr Thr Ser	Thr Thr Ile Gly Leu Thr	Pro Leu Ser Ala Leu	Thr 1515 Pro 1530 Arg 1545 Ser 1560 Gly 1575 Ala	Gly Lys Thr Pro Ser	Thr Thr Thr Chu	Ser Met Val Phe Ser

- Pro Val Thr Ser Thr Phe Ser Pro Gly Ile Ser Thr Ser Ser Ile 1625 1630 1635
- Pro Ser Ser Thr Ala Ala Thr Val Pro Phe Met Val Pro Phe Thr 1640 1645 1650
- Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg 1655 1660 1665
- His Pro Gly Ser Arg Lys Phe Asn Ala Thr Glu Arg Glu Leu Gln 1670 1675 1680
- Gly Leu Leu Lys Pro Leu Phe Arg Asn Ser Ser Leu Glu Tyr Leu 1685 1690 1695
- Tyr Ser Gly Cys Arg Leu Ala Ser Leu Arg Pro Glu Lys Asp Ser 1700 1705 1710
- Ser Ala Met Ala Val Asp Ala Ile Cys Thr His Arg Pro Asp Pro 1715 1720 1725
- Glu Asp Leu Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser 1730 1740
- Asn Leu Thr Asn Gly Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp 1745 1750 1755
- Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Met 1760 1765 1770
- Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Val Gly Thr 1775 1780 1785
- Ser Gly Thr Pro Ser Ser Ser Pro Ser Pro Thr 1790 1795
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- Asn Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe 20 25 30
- Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys 35 40 45
- Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu

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His	Arg	Val	Asp	Pro 85	Ile	Gly	Pro	Gly	Leu 90	Asp	Arg	Glu	Arg	Leu 95	Tyr	
Trp	Glu	Leu	Ser 100	Gln	Leu	Thr	Asn	Ser 105	Ile	Thr	Glu	Leu	Gly 110	Pro	Tyr	
Thr	Leu	Asp 115	Arg	Asp	Ser	Leu	Tyr 120	Val	Asn	Gly	Phe	Asn 125	Pro	Arg	Ser	
Ser	Val 130	Pro	Thr	Thr	Ser	Thr 135	Pro	Gly	Thr	Ser	Thr 140	Val	His	Leu	Ala	
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		ggc Gly														96
		cat His 35														144
		acg Thr														192
		agt Ser														240

aga cct gag Arg Pro Glu											288
cac cgc gtt His Arg Val	_			y Leu	-	_					336
tgg gag ctg Trp Glu Leu 115											384
acc ctg gac Thr Leu Asp 130											432
tct gtg cca Ser Val Pro 145		_		_							480
acc tct ggg Thr Ser Gly			_								507
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His Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr 100 105 110

Trp Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr 115 120 125

Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Arg Ser 130 135 140

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<212> DNA

<213> Homo sapiens

<400> 153

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<210> 154

<211> 9

<212> PRT

<211> 780

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<213> Homo sapiens
<400> 154
Arg Leu Tyr Trp Glu Leu Ser Gln Leu
<210> 155
<211> 9
<212> PRT
<213> Homo sapiens
<400> 155
Thr Leu Asp Arg Asp Ser Leu Tyr Val
             5
<210> 156
<211> 9
<212> PRT
<213> Homo sapiens
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Val Leu Gln Gly Leu Leu Lys Pro Leu
<210> 157
<211> 9
<212> PRT
<213> Homo sapiens
<400> 157
Gln Leu Thr Asn Ser Ile Thr Glu Leu
               5
<210> 158
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<212> PRT

<213> Homo sapiens

<400> 158

Ala Thr Val Pro Phe Met Val Pro Phe Thr Leu Asn Phe Thr Ile Thr 1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg Lys Phe 20 25 30

Asn Ala Thr Glu Arg Glu Leu Gln Gly Leu Leu Lys Pro Leu Phe Arg 35 40 45

Asn Ser Ser Leu Glu Tyr Leu Tyr Ser Gly Cys Arg Leu Ala Ser Leu 50 55 60

Arg Pro Glu Lys Asp Ser Ser Ala Met Ala Val Asp Ala Ile Cys Thr 65 70 75 80

His Arg Pro Asp Pro Glu Asp Leu Gly Leu Asp Arg Glu Arg Leu Tyr 85 90 95

Trp Glu Leu Ser Asn Leu Thr Asn Gly Ile Gln Glu Leu Gly Pro Tyr 100 105 110

Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser 115 120 125

Ser Met Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Val Gly 130 135 140

Thr Ser Gly Thr Pro Ser Ser Ser Pro Ser Pro Thr Ala Ala Gly Pro 145 150 155 160

Leu Leu Met Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr 165 170 175

Glu Glu Asp Met Arg Arg Thr Gly Ser Arg Lys Phe Asn Thr Met Glu 180 185 190

Ser Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser Val 195 200 205

Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys 210 215 220

Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu Asp 225 230 235 240

Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu Ser 245 250 255

Lys Leu Thr Asn Asp Ile Glu Glu Leu Gly Pro Tyr Thr Leu Asp Arg
260 265 270

Asn Ser Leu Tyr Val Asn Gly Phe Thr His Gln Ser Ser Val Ser Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Arg Thr Ser Gly Thr 295 Pro Ser Ser Leu Ser Ser Pro Thr Ile Met Ala Gly Pro Leu Leu Val 310 315 Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Gly Glu Asp 325 Met Gly His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu 345 Gln Gly Leu Leu Gly Pro Ile Phe Lys Asn Thr Ser Val Gly Pro Leu 360 Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Ser Glu Lys Asp Gly Ala 375 Ala Thr Gly Val Asp Ala Ile Cys Ile His His Leu Asp Pro Lys Ser 390 Pro Gly Leu Asn Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Thr Ser Val Pro Thr Ser Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Phe Ser 450 Leu Pro Ser Pro Ala Thr Ala Gly Pro Leu Leu Val Leu Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Lys Tyr Glu Glu Asp Met His Arg Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Thr Leu Leu 505 Gly Pro Met Phe Lys Asn Thr Ser Val Gly Leu Leu Tyr Ser Gly Cys 515 520 Arg Leu Thr Leu Leu Arg Ser Glu Lys Asp Gly Ala Ala Thr Gly Val 535 Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asp 555 545 550 Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys 565 570 Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly

585

Phe Thr His Trp Ile Pro Val Pro Thr Ser Ser Thr Pro Gly Thr Ser 595 600 605

Thr Val Asp Leu Gly Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr 610 615 620

Ala Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr 625 630 635 640

Asn Leu Gln Tyr Glu Glu Asp Met His His Pro Gly Ser Arg Lys Phe 645 650 655

Asn Thr Ser Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu 675 680 685

Arg Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr 690 695 700

His Arg Leu Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln Leu Tyr 705 710 715 720

Trp Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr 725 730 735

Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Gln Thr 740 745 750

Ser Ala Pro Asn Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly 755 760 765

Thr Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr 770 775 780

<210> 159

<211> 780

<212> PRT

<213> Homo sapiens

<400> 159

Ser Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr 1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met His His Pro Gly Ser Arg Lys Phe 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Met Phe Lys 35 40 45

Asn Thr Ser Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu

	50					55					60				
Arg 65	Pro	Glu	Lys	Asn	Gly 70	Ala	Ala	Thr	Gly	Met 75	Asp	Ala	Ile	Cys	Ser 80
His	Arg	Leu	Asp	Pro 85	Lys	Ser	Pro	Gly	Leu 90	Asn	Arg	Glu	Gln	Leu 95	Tyr
Trp	Glu	Leu	Ser 100	Gln	Leu	Thr	His	Gly 105	Ile	Lys	Glu	Leu	Gly 110	Pro	Tyr
Thr	Leu	Asp 115	Arg	Asn	Ser	Leu	Tyr 120	Val	Asn	Gly	Phe	Thr 125	His	Arg	Ser
Ser	Val 130	Ala	Pro	Thr	Ser	Thr 135	Pro	Gly	Thr	Ser	Thr 140	Val	Asp	Leu	Gly
Thr 145	Ser	Gly	Thr	Pro	Ser 150	Ser	Leu	Pro	Ser	Pro 155	Thr	Thr	Ala	Val	Pro 160
Leu	Leu	Val	Pro	Phe 165	Thr	Leu	Asn	Phe	Thr 170	Ile	Thr	Asn	Leu	Gln 175	Tyr
Gly	Glu	Asp	Met 180	Arg	His	Pro	Gly	Ser 185	Arg	Lys	Phe	Asn	Thr 190	Thr	Glu
Arg	Val	Leu 195	Gln	Gly	Leu	Leu	Gly 200	Pro	Leu	Phe	Lys	Asn 205	Ser	Ser	Val
Gly	Pro 210	Leu	Tyr	Ser	Gly	Cys 215	Arg	Leu	Ile	Ser	Leu 220	Arg	Ser	Glu	Lys
Asp 225	Gly	Ala	Ala	Thr	Gly 230	Val	Asp	Ala	Ile	Cys 235	Thr	His	His	Leu	Asn 240
Pro	Gln	Ser	Pro	Gly 245	Leu	Asp	Arg	Glu	Gln 250	Leu	Tyr	Trp	Gln	Leu 255	Ser
Gln	Met	Thr	Asn 260	Gly	Ile	Lys	Glu	Leu 265	Gly	Pro	Tyr	Thr	Leu 270	Asp	Arç
Asn	Ser	Leu 275	Tyr	Val	Asn	Gly	Phe 280	Thr	His	Arg	Ser	Ser 285	Gly	Leu	Thr
Thr	Ser 290	Thr	Pro	Trp	Thr	Ser 295	Thr	Val	Asp	Leu	Gly 300	Thr	Ser	Gly	Thr
Pro 305	Ser	Pro	Val	Pro	Ser 310	Pro	Thr	Thr	Ala	Gly 315	Pro	Leu	Leu	Val	Pro 320
Phe	Thr	Leu	Asn	Phe 325	Thr	Ile	Thr	Asn	Leu 330	Gln	Tyr	Glu	Glu	Asp 335	Met
His	Arg	Pro	Gly 340	Ser	Arg	Lys	Phe	Asn 345	Ala	Thr	Glu	Arg	Val 350	Leu	Glr
Gly	Leu	Leu 355	Ser	Pro	Ile	Phe	Lys 360	Asn	Ser	Ser	Val	Gly 365	Pro	Leu	Туг

Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg Pro 395 390 Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His 405 410 Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp Arg Asp Ser Leu Tyr 425 Val Asn Gly Phe Thr His Gln Asn Ser Val Pro Thr Thr Ser Thr Pro 440 Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly Thr Pro Ser Ser Phe 455 Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Phe Asn 475 470 Phe Thr Ile Thr Asn Leu His Tyr Glu Glu Asn Met Gln His Pro Gly 490 485 Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Lys 505 Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg 520 Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr Gly Met Asp 535 Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Cys Glu Leu Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe 580 Thr His Gln Asn Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr 600 Val Tyr Trp Ala Thr Thr Gly Thr Pro Ser Ser Phe Pro Gly His Thr 610 615 Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Phe Asn Phe Thr Ile Thr 635 630 Asn Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe 645 650 Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys 665 Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu 680 685

Arg Pro Glu Lys His Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr 690 695 700

His Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr 705 710 715 720

Trp Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr
725 730 735

Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Arg Ser 740 745 750

Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala 755 760 765

Thr Ser Gly Thr Pro Ser Ser Leu Pro Gly His Thr 770 775 780

<210> 160

<211> 624

<212> PRT

<213> Homo sapiens

<400> 160

Thr Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr 1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met His Arg Pro Gly Ser Arg Arg Phe 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Thr Pro Leu Phe Lys $35 \hspace{1.5cm} 40 \hspace{1.5cm} 45$

Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu 50 55 60

Arg Pro Glu Lys Gln Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr 65 70 75 80

His Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr 85 90 95

Trp Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr 100 105 110

Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Trp Ser 115 120 125

Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala 130 135 140

Thr Ser Gly Thr Pro Ser Ser Leu Pro Gly His Thr Ala Pro Val Pro

145					150					155					160
Leu	Leu	Ile	Pro	Phe 165	Thr	Leu	Asn	Phe	Thr 170	Ile	Thr	Asp	Leu	His 175	Tyr
Glu	Glu	Asn	Met 180	Gln	His	Pro	Gly	Ser 185	Arg	Lys	Phe	Asn	Thr 190	Thr	Glu
Arg	Val	Leu 195	Gln	Gly	Leu	Leu	Lys 200	Pro	Leu	Phe	Lys	Ser 205	Thr	Ser	Val
Gly	Pro 210	Leu	Tyr	Ser	Gly	Cys 215	Arg	Leu	Thr	Leu	Leu 220	Arg	Pro	Glu	Lys
His 225	Gly	Ala	Ala	Thr	Gly 230	Val	Asp	Ala	Ile	Cys 235	Thr	Leu	Arg	Leu	Asp 240
Pro	Thr	Gly	Pro	Gly 245	Leu	Asp	Arg	Glu	Arg 250	Leu	Tyr	Trp	Glu	Leu 255	Ser
Gln	Leu	Thr	Asn 260	Ser	Val	Thr	Glu	Leu 265	Gly	Pro	Tyr	Thr	Leu 270	Asp	Arg
Asp	Ser	Leu 275	Tyr	Val	Asn	Gly	Phe 280	Thr	His	Arg	Ser	Ser 285	Val	Pro	Thr
Thr	Ser 290	Ile	Pro	Gly	Thr	Ser 295	Ala	Val	His	Leu	Glu 300	Thr	Ser	Gly	Thr
Pro 305	Ala	Ser	Leu	Pro	Gly 310	His	Thr	Ala	Pro	Gly 315	Pro	Leu	Leu	Val	Pro 320
Phe	Thr	Leu	Asn	Phe 325	Thr	Ile	Thr	Asn	Leu 330	Gln	Tyr	Glu	Glu	Asp 335	Met
Arg	His	Pro	Gly 340	Ser	Arg	Lys	Phe	Ser 345	Thr	Thr	Glu	Arg	Val 350	Leu	Gln
Gly	Leu	Leu 355	Lys	Pro	Leu	Phe	Lys 360	Asn	Thr	Ser	Val	Ser 365	Ser	Leu	Tyr
Ser	Gly 370	Cys	Arg	Leu	Thr	Leu 375	Leu	Arg	Pro	Glu	Lys 380	Asp	Gly	Ala	Ala
Thr 385	Arg	Val	Asp	Ala	Val 390	Cys	Thr	His	Arg	Pro 395	Asp	Pro	Lys	Ser	Pro 400
Gly	Leu	Asp	Arg	Glu 405	Arg	Leu	Tyr	Trp	Lys 410	Leu	Ser	Gln	Leu	Thr 415	His
Gly	Ile	Thr	Glu 420	Leu	Gly	Pro	Tyr	Thr 425	Leu	Asp	Arg	His	Ser 430	Leu	Tyr
Val	Asn	Gly 435	Phe	Thr	His	Gln	Ser 440	Ser	Met	Thr	Thr	Thr 445	Arg	Thr	Pro
Asp	Thr 450	Ser	Thr	Met	His	Leu 455	Ala	Thr	Ser	Arg	Thr 460	Pro	Ala	Ser	Leu

Ser Gly Pro Thr Thr Ala Ser Pro Leu Leu Val Leu Phe Thr Ile Asn 465 470 475 480

Phe Thr Ile Thr Asn Gln Arg Tyr Glu Glu Asn Met His His Pro Gly 485 490 495

Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Arg 500 505 510

Pro Val Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg 515 520 525

Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala Ala Thr Lys Val Asp 530 535 540

Ala Ile Cys Thr Tyr Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg 545 550 555 560

Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu 565 570 575

Leu Gly Pro Tyr Thr Gln Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe 580 585 590

Thr His Arg Ser Ser Val Pro Thr Thr Ser Ile Pro Gly Thr Ser Ala 595 600 605

Val His Leu Glu Thr Ser Gly Thr Pro Ala Ser Leu Pro Gly His Thr 610 615 620

<210> 161

<211> 468

<212> PRT

<213> Homo sapiens

<400> 161

Ala Thr Gly Pro Val Leu Leu Pro Phe Thr Leu Asn Phe Thr Ile Thr
1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met His Arg Pro Gly Ser Arg Lys Phe 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Met Pro Leu Phe Lys 35 40 45

Asn Thr Ser Val Ser Ser Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu 50 55 60

Arg Pro Glu Lys Asp Gly Ala Ala Thr Arg Val Asp Ala Val Cys Thr 65 70 75 80

His Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Arg Leu Tyr 85 90 95 Trp Lys Leu Ser Gln Leu Thr His Gly Ile Thr Glu Leu Gly Pro Tyr 105 100 Thr Leu Asp Arg His Ser Leu Tyr Val Asn Gly Phe Thr His Gln Ser 120 Ser Met Thr Thr Arg Thr Pro Asp Thr Ser Thr Met His Leu Ala 130 135 Thr Ser Arg Thr Pro Ala Ser Leu Ser Gly Pro Thr Thr Ala Ser Pro 155 Leu Leu Val Leu Phe Thr Ile Asn Phe Thr Ile Thr Asn Leu Arg Tyr 165 170 Glu Glu Asn Met His His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu 185 Arg Val Leu Gln Gly Leu Leu Arg Pro Val Phe Lys Asn Thr Ser Val 200 Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys Lys 215 Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr Arg Pro Asp 235 Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Gln Asp Arg Asp Ser Leu Tyr Asn Val Gly Phe Thr Gln Arg Ser Ser Val Pro Thr Thr Ser Val Pro Gly Thr Pro Thr Val Asp Leu Gly Thr Ser Gly Thr 290 Pro Val Ser Lys Pro Gly Pro Ser Ala Ala Ser Pro Leu Leu Val Leu 310 Phe Thr Leu Asn Gly Thr Ile Thr Asn Leu Arg Tyr Glu Glu Asn Met 325 Gln His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln 345 Gly Leu Leu Arg Ser Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr 360 Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Thr Ala 375 Thr Gly Val Asp Ala Ile Cys Thr His His Pro Asp Pro Lys Ser Pro 390 395

Arg Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His

405 410 415

Asn Ile Thr Glu Leu Gly His Tyr Ala Leu Asp Asn Asp Ser Leu Phe 420 425 430

Val Asn Gly Phe Thr His Arg Ser Ser Val Ser Thr Thr Ser Thr Pro
435 440 445

Gly Thr Pro Thr Val Tyr Leu Gly Ala Ser Lys Thr Pro Ala Ser Ile 450 455 460

Phe Gly Pro Ser 465

<210> 162

<211> 11721

<212> PRT

<213> Homo sapiens

<220>

<221> VARIANT

<222> (1)..(11721)

<223> any x = any amino acid

<400> 162

Met Glu His Ile Thr Lys Ile Pro Asn Glu Ala Ala His Arg Gly Thr 1 5 10 15

Ile Arg Pro Val Lys Gly Pro Gln Thr Ser Thr Ser Pro Ala Ser Pro 20 25 30

Lys Gly Leu His Thr Gly Gly Thr Lys Arg Met Glu Thr Thr Thr 35 40 45

Ala Leu Lys Thr Thr Thr Ala Leu Lys Thr Thr Ser Arg Ala Thr 50 55 60

Leu Thr Thr Ser Val Tyr Thr Pro Thr Leu Gly Thr Leu Thr Pro Leu 65 70 75 80

Asn Ala Ser Arg Gln Met Ala Ser Thr Ile Leu Thr Glu Met Met Ile 85 90 95

Thr Thr Pro Tyr Val Phe Pro Asp Val Pro Glu Thr Thr Ser Ser Leu 100 105 110

Ala Thr Ser Leu Gly Ala Glu Thr Ser Thr Ala Leu Pro Arg Thr Thr 115 120 125

Pro Ser Val Leu Asn Arg Glu Ser Glu Thr Thr Ala Ser Leu Val Ser 135 Arg Ser Gly Ala Glu Arg Ser Pro Val Ile Gln Thr Leu Asp Val Ser 155 150 Ser Ser Glu Pro Asp Thr Thr Ala Ser Trp Val Ile His Pro Ala Glu 170 165 Thr Ile Pro Thr Val Ser Lys Thr Thr Pro Asn Phe Phe His Ser Glu 185 Leu Asp Thr Val Ser Ser Thr Ala Thr Ser His Gly Ala Asp Val Ser 195 Ser Ala Ile Pro Thr Asn Ile Ser Pro Ser Glu Leu Asp Ala Leu Thr 215 Pro Leu Val Thr Ile Ser Gly Thr Asp Thr Ser Thr Thr Phe Pro Thr 230 235 Leu Thr Lys Ser Pro His Glu Thr Glu Thr Arg Thr Thr Trp Leu Thr 245 250 His Pro Ala Glu Thr Ser Ser Thr Ile Pro Arg Thr Ile Pro Asn Phe 260 2.65 Ser His His Glu Ser Asp Ala Thr Pro Ser Ile Ala Thr Ser Pro Gly 280 Ala Glu Thr Ser Ser Ala Ile Pro Ile Met Thr Val Ser Pro Gly Ala 295 Glu Asp Leu Val Thr Ser Gln Val Thr Ser Ser Gly Thr Asp Arg Asn 315 Met Thr Ile Pro Thr Leu Thr Leu Ser Pro Gly Glu Pro Lys Thr Ile Ala Ser Leu Val Thr His Pro Glu Ala Gln Thr Ser Ser Ala Ile Pro Thr Ser Thr Ile Ser Pro Ala Val Ser Arg Leu Val Thr Ser Met Val 355 Thr Ser Leu Ala Ala Lys Thr Ser Thr Thr Asn Arg Ala Leu Thr Asn Ser Pro Gly Glu Pro Ala Thr Thr Val Ser Leu Val Thr His Pro Ala 390 395 385 Gln Thr Ser Pro Thr Val Pro Trp Thr Thr Ser Ile Phe Phe His Ser 410 405 Lys Ser Asp Thr Thr Pro Ser Met Thr Thr Ser His Gly Ala Glu Ser 430 420 425

Ser Ser Ala Val Pro Thr Pro Thr Val Ser Thr Glu Val Pro Gly Val

		435					440					445			
Val	Thr 450	Pro	Leu	Val	Thr	Ser 455	Ser	Arg	Ala	Val	Ile 460	Ser	Thr	Thr	Ile
Pro 465	Ile	Leu	Thr	Leu	Ser 470	Pro	Gly	Glu	Pro	Glu 475	Thr	Thr	Pro	Ser	Met 480
Ala	Thr	Ser	His	Gly 485	Glu	Glu	Ala	Ser	Ser 490	Ala	Ile	Pro	Thr	Pro 495	Thr
Val	Ser	Pro	Gly 500	Val	Pro	Gly	Val	Val 505	Thr	Ser	Leu	Val	Thr 510	Ser	Ser
Arg	Ala	Val 515	Thr	Ser	Thr	Thr	Ile 520	Pro	Ile	Leu	Thr	Phe 525	Ser	Leu	Gly
Glu	Pro 530	Glu	Thr	Thr	Pro	Ser 535	Met	Ala	Thr	Ser	His 540	Gly	Thr	Glu	Ala
Gly 545	Ser	Ala	Val	Pro	Thr 550	Val	Leu	Pro	Glu	Val 555	Pro	Gly	Met	Val	Thr 560
Ser	Leu	Val	Ala	Ser 565	Ser	Arg	Ala	Val	Thr 570	Ser	Thr	Thr	Leu	Pro 575	Thr
Leu	Thr	Leu	Ser 580	Pro	Gly	Glu	Pro	Glu 585	Thr	Thr	Pro	Ser	Met 590	Ala	Thr
Ser	His	Gly 595	Ala	Glu	Ala	Ser	Ser 600	Thr	Val	Pro	Thr	Val 605	Ser	Pro	Glu
Val	Pro 610	Gly	Val	Val	Thr	Ser 615	Leu	Val	Thr	Ser	Ser 620	Ser	Gly	Val	Asn
Ser 625	Thr	Ser	Ile	Pro	Thr 630	Leu	Ile	Leu	Ser	Pro 635	Gly	Glu	Leu	Glu	Thr 640
Thr	Pro	Ser	Met	Ala 645	Thr	Ser	His	Gly	Ala 650	Glu	Ala	Ser	Ser	Ala 655	Val
Pro	Thr	Pro	Thr 660	Val	Ser	Pro	Gly	Val 665	Ser	Gly	Val	Val	Thr 670	Pro	Leu
Val	Thr	Ser 675	Ser	Arg	Ala	Val	Thr 680	Ser	Thr	Thr	Ile	Pro 685	Ile	Leu	Thr
Leu	Ser 690	Ser	Ser	Glu	Pro	Glu 695	Thr	Thr	Pro	Ser	Met 700	Ala	Thr	Ser	His
Gly 705	Val	Glu	Ala	Ser	Ser 710	Ala	Val	Leu	Thr	Val 7 1 5	Ser	Pro	Glu	Val	Pro 720
Gly	Met	Val	Thr	Ser 725	Leu	Val	Thr	Ser	Ser 730	Arg	Ala	Val	Thr	Ser 735	Thr
Thr	Ile	Pro	Thr 740	Leu	Thr	Ile	Ser	Ser 745	Asp	Glu	Pro	Glu	Thr 750	Thr	Thr

- Ser Leu Val Thr His Ser Glu Ala Lys Met Ile Ser Ala Ile Pro Thr 755 760 765
- Leu Ala Val Ser Pro Thr Val Gln Gly Leu Val Thr Ser Leu Val Thr 770 780
- Ser Ser Gly Ser Glu Thr Ser Ala Phe Ser Asn Leu Thr Val Ala Ser 785 790 795 800
- Ser Gln Pro Glu Thr Ile Asp Ser Trp Val Ala His Pro Gly Thr Glu 805 810 815
- Ala Ser Ser Val Val Pro Thr Leu Thr Val Ser Thr Gly Glu Pro Phe 820 825 830
- Thr Asn Ile Ser Leu Val Thr His Pro Ala Glu Ser Ser Ser Thr Leu 835 840 845
- Pro Arg Thr Thr Ser Arg Phe Ser His Ser Glu Leu Asp Thr Met Pro 850 855 860
- Ser Thr Val Thr Ser Pro Glu Ala Glu Ser Ser Ser Ala Ile Ser Thr 865 870 875 880
- Thr Ile Ser Pro Gly Ile Pro Gly Val Leu Thr Ser Leu Val Thr Ser 885 890 895
- Ser Gly Arg Asp Ile Ser Ala Thr Phe Pro Thr Val Pro Glu Ser Pro 900 905 910
- His Glu Ser Glu Ala Thr Ala Ser Trp Val Thr His Pro Ala Val Thr 915 920 925
- Ser Thr Thr Val Pro Arg Thr Thr Pro Asn Tyr Ser His Ser Glu Pro 930 935 940
- Asp Thr Thr Pro Ser Ile Ala Thr Ser Pro Gly Ala Glu Ala Thr Ser 945 950 955 960
- Asp Phe Pro Thr Ile Thr Val Ser Pro Asp Val Pro Asp Met Val Thr 965 970 975
- Ser Gln Val Thr Ser Ser Gly Thr Asp Thr Ser Ile Thr Ile Pro Thr 980 985 990
- Leu Thr Leu Ser Ser Gly Glu Pro Glu Thr Thr Thr Ser Phe Ile Thr 995 1000 1005
- Tyr Ser Glu Thr His Thr Ser Ser Ala Ile Pro Thr Leu Pro Val 1010 1015 1020
- Ser Pro Gly Ala Ser Lys Met Leu Thr Ser Leu Val Ile Ser Ser 1025 1030 1035
- Gly Thr Asp Ser Thr Thr Thr Phe Pro Thr Leu Thr Glu Thr Pro 1040 1045 1050
- Tyr Glu Pro Glu Thr Thr Ala Ile Gln Leu Ile His Pro Ala Glu 1055 1060 1065

Thr	Asn 1070	Thr	Met	Val	Pro	Arg 1075	Thr	Thr	Pro	Lys	Phe 1080	Ser	His	Ser
Lys	Ser 1085	Asp	Thr	Thr	Leu	Pro 1090		Ala	Ile	Thr	Ser 1095	Pro	Gly	Pro
Glu	Ala 1100	Ser	Ser	Ala	Val	Ser 1105	Thr	Thr	Thr	Ile	Ser 1110	Pro	Asp	Met
Ser	Asp 1115	Leu	Val	Thr	Ser	Leu 1120	Val	Pro	Ser	Ser	Gly 1125	Thr	Asp	Thr
Ser	Thr 1130	Thr	Phe	Pro	Thr	Leu 1135		Glu	Thr	Pro	Tyr 1140	Glu	Pro	Glu
Thr	Thr 1145	Ala	Thr	Trp	Leu	Thr 1150	His	Pro	Ala	Glu	Thr 1155	Ser	Thr	Thr
Val	Ser 1160	Gly	Thr	Ile	Pro	Asn 1165	Phe	Ser	His	Arg	Gly 1170	Ser	Asp	Thr
Ala	Pro 1175	Ser	Met	Val	Thr	Ser 1180	Pro	Gly	Val	Asp	Thr 1185	Arg	Ser	Gly
Val	Pro 1190	Thr	Thr	Thr	Ile	Pro 1195	Pro	Ser	Ile	Pro	Gly 1200	Val	Val	Thr
Ser	Gln 1205	Val	Thr	Ser	Ser	Ala 1210		Asp	Thr	Ser	Thr 1215	Ala	Ile	Pro
Thr	Leu 1220		Pro	Ser	Pro	Gly 1225		Pro	Glu	Thr	Thr 1230	Ala	Ser	Ser
Ala	Thr 1235	His	Pro	Gly	Thr	Gln 1240		Gly	Phe	Thr	Val 1245	Pro	Ile	Arg
Thr	Val 1250		Ser	Ser	Glu	Pro 1255		Thr	Met	Ala	Ser 1260	Trp	Val	Thr
His	Pro 1265		Gln	Thr	Ser	Thr 1270		Val	Ser	Arg	Thr 1275		Ser	Ser
Phe	Ser 1280		Ser	Ser	Pro	Asp 1285		Thr	Pro	Val	Met 1290	Ala	Thr	Ser
Pro	Arg 1295		Glu	Ala	Ser	Ser 1300	Ala	Val	Leu	Thr	Thr 1305	Ile	Ser	Pro
Gly	Ala 1310		Glu	Met	Val	Thr 1315		Gln	Ile	Thr	Ser 1320	Ser	Gly	Ala
Ala	Thr 1325		Thr	Thr	Val	Pro 1330		Leu	Thr	His	Ser 1335	Pro	Gly	Met
Pro	Glu 1340		Thr	Ala	Leu	Leu 1345		Thr	His	Pro	Arg 1350	Thr	Glu	Thr
Ser	Lys	Thr	Phe	Pro	Ala	Ser	Thr	Val	Phe	Pro	Gln	Val	Ser	Glu

	1355					1360					1365			
Thr	Thr 1370	Ala	Ser	Leu	Thr	Ile 1375	Arg	Pro	Gly	Ala	Glu 1380	Thr	Ser	Thr
Ala	Leu 1385	Pro	Thr	Gln	Thr	Thr 1390	Ser	Ser	Leu	Phe	Thr 1395	Leu	Leu	Val
Thr	Gly 1400	Thr	Ser	Arg	Val	Asp 1405	Leu	Ser	Pro	Thr	Ala 1410	Ser	Pro	Gly
Val	Ser 1415	Ala	Lys	Thr	Ala	Pro 1420	Leu	Ser	Thr	His	Pro 1425	Gly	Thr	Glu
Thr	Ser 1430		Met	Ile	Pro	Thr 1435		Thr	Leu	Ser	Leu 1440	Gly	Leu	Leu
Glu	Thr 1445	Thr	Gly	Leu	Leu	Ala 1450	Thr	Ser	Ser	Ser	Ala 1455	Glu	Thr	Ser
Thr	Ser 1460		Leu	Thr		Thr 1465		Ser	Pro	Ala	Val 1470	Ser	Gly	Leu
Ser	Ser 1475		Ser	Ile	Thr	Thr 1480		Lys	Pro	Gln	Thr 1485		Thr	Ser
Trp	Asn 1490		Glu	Thr	Ser	Pro 1495		Val	Thr	Ser	Val 1500	Gly	Pro	Pro
Glu	Phe 1505		Arg	Thr	Val	Thr 1510		Thr	Thr	Met	Thr 1515	Leu	Ile	Pro
Ser	Glu 1520		Pro	Thr	Pro	Pro 1525		Thr	Ser	His	Gly 1530		Gly	Val
Ser	Pro 1535		Thr	Ile	Leu	Arg 1540		Thr	Met	Val	Glu 1545	Ala	Thr	Asn
Leu	Ala 1550		Thr	Gly	Ser	Ser 1555		Thr	Val	Ala	Lys 1560	Thr	Thr	Thr
Thr	Phe 1565		Thr	Leu	Ala	Gly 1570		Leu	Phe	Thr	Pro 1575	Leu	Thr	Thr
Pro	Gly 1580		Ser	Thr	Leu	Ala 1585		Glu	Ser	Val	Thr 1590		Arg	Thr
Ser	Tyr 1595		His	Arg	Ser	Trp 1600		Ser	Thr	Thr	Ser 1605	Ser	Tyr	Asn
Arg	Arg 1610		Trp	Thr	Pro	Ala 1615		Ser	Thr	Pro	Val 1620	Thr	Ser	Thr
Phe	Ser 1625		Gly	' Ile	Ser	Thr 1630		Ser	Ile	Pro	Ser 1635		Thr	Ala
Ala	Thr 1640		Pro	Phe	Met	Val 1645		Phe	Thr	Leu	Asn 1650		Thr	Ile

	Asn 1655	Leu	Gln	Tyr	Glu	Glu 1660	Asp	Met	Arg	His	Pro 1665	Gly	Ser	Arg
	Phe 1670	Asn	Ala	Thr	Glu	Arg 1675	Glu	Leu	Gln	Gly	Leu 1680	Leu	Lys	Pro
	Phe 1685	Arg	Asn	Ser	Ser	Leu 1690	Glu	Tyr	Leu	Tyr	Ser 1695	Gly	Cys	Arg
	Ala 1700	Ser	Leu	Arg	Pro	Glu 1705		Asp	Ser	Ser	Ala 1710	Met	Ala	Val
	Ala 1715	Ile	Cys	Thr	His	Arg 1720		Asp	Pro	Glu	Asp 1725	Leu	Gly	Leu
Asp	Arg 1730		Arg	Leu	Tyr	Trp 1735		Leu	Ser	Asn	Leu 1740	Thr	Asn	Gly
Ile	Gln 1745	Glu	Leu	Gly	Pro	Tyr 1750		Leu	Asp	Arg	Asn 1755	Ser	Leu	Tyr
	Asn 1760		Phe	Thr	His	Arg 1765		Ser	Met	Pro	Thr 1770	Thr	Ser	Thr
Pro	Gly 1775		Ser	Thr	Val	Asp 1780		Gly	Thr	Ser	Gly 1785	Thr	Pro	Ser
Ser	Ser 1790		Ser	Pro	Thr	Ala 1795		Gly	Pro	Leu	Leu 1800	Met	Pro	Phe
Thr	Leu 1805		Phe	Thr	Ile	Thr 1810		Leu	Gln	Tyr	Glu 1815	Glu	Asp	Met
Arg	Arg 1820		Gly	Ser	Arg	Lys 1825		Asn	Thr	Met	Glu 1830		Val	Leu
Gln	Gly 1835		Leu	Lys	Pro	Leu 1840		Lys	Asn	Thr	Ser 1845	Val	Gly	Pro
Leu	Tyr 1850		Gly	Cys	Arg	Leu 1855		Leu	Leu	Arg	Pro 1860	Glu	Lys	Asp
Gly	Ala 1865		Thr	Gly	Val	Asp 1870		Ile	Cys	Thr	His 1875	Arg	Leu	Asp
Pro	Lys 1880		Pro	Gly	Leu	Asn 1885		Glu	Gln	Leu	Tyr 1890		Glu	Leu
Ser	Lys 1895		Thr	Asn	Asp	1900		Glu	Leu	Gly	Pro 1905		Thr	Leu
Asp	Arg 1910		Ser	Leu	Tyr	Val 1915		Gly	Phe	Thr	His 1920	Gln	. Ser	Ser
Val	Ser 1925		Thr	Ser	Thr	Pro 1930		Thr	Ser	Thr	Val 1935		Leu	Arg
Thr	Ser 1940		Thr	Pro	Ser	Ser 1945		Ser	Ser	Pro	Thr 1950		Met	Ala

Ala	Gly 1955	Pro	Leu	Leu	Val	Pro 1960	Phe	Thr	Leu	Asn	Phe 1965	Thr	Ile	Thr
Asn	Leu 1970	Gln	Tyr	Gly	Glu	Asp 1975	Met	Gly	His	Pro	Gly 1980	Ser	Arg	Lys
Phe	Asn 1985	Thr	Thr	Glu	Arg	Val 1990	Leu	Gln	Gly	Leu	Leu 1995	Gly	Pro	Ile
Phe	Lys 2000	Asn	Thr	Ser	Val	Gly 2005	Pro	Leu	Tyr	Ser	Gly 2010	Cys	Arg	Leu
Thr	Ser 2015	Leu	Arg	Ser	Glu	Lys 2020	Asp	Gly	Ala	Ala	Thr 2025	Gly	Val	Asp
Ala	Ile 2030	Cys	Ile	His	His	Leu 2035	Asp	Pro	Lys	Ser	Pro 2040	Gly	Leu	Asn
Arg	Glu 2045	Arg	Leu	Tyr	Trp	Glu 2050	Leu	Ser	Gln	Leu	Thr 2055	Asn	Gly	Ile
Lys	Glu 2060		Gly	Pro	Tyr	Thr 2065		Asp	Arg	Asn	Ser 2070	Leu	Tyr	Val
Asn	Gly 2075	Phe	Thr	His	Arg	Thr 2080	Ser	Val	Pro	Thr	Ser 2085	Ser	Thr	Pro
Gly	Thr 2090		Thr	Val	Asp	Leu 2095		Thr	Ser	Gly	Thr 2100	Pro	Phe	Ser
Leu	Pro 2105		Pro	Ala	Thr	Ala 2110		Pro	Leu	Leu	Val 2115	Leu	Phe	Thr
Leu	Asn 2120		Thr	Ile	Thr	Asn 2125		Lys	Tyr	Glu	Glu 2130		Met	His
Arg	Pro 2135		Ser	Arg	Lys	Phe 2140		Thr	Thr	Glu	Arg 2145	Val	Leu	Gln
Thr	Leu 2150		Gly	Pro	Met	Phe 2155		Asn	Thr	Ser	Val 2160		Leu	Leu
Tyr	Ser 2165		Cys	Arg	Leu	Thr 2170		Leu	Arg	Ser	Glu 2175		Asp	Gly
Ala	Ala 2180		Gly	· Val	Asp	Ala 2185		Cys	Thr	His	Arg 2190		Asp	Pro
Lys	Ser 2195		Gly	Leu	Asp	Arg 2200		Gln	. Leu	Tyr	Trp 2205		Leu	Ser
Gln	Leu 2210		Asn	Gly	Ile	Lys 2215		. Leu	Gly	Pro	Tyr 2220		Leu	Asp
Arg	Asn 2225		Leu	Tyr	Val	Asn 2230		Phe	Thr	His	Trp 2235		Pro	Val
Pro	Thr	Ser	Ser	Thr	Pro	Gly	Thr	Ser	Thr	Val	Asp	Leu	Gly	Ser

	2240					2245					2250			
Gly	Thr 2255	Pro	Ser	Ser	Leu	Pro 2260	Ser	Pro	Thr	Ala	Ala 2265	Gly	Pro	Leu
Leu	Val 2270	Pro	Phe	Thr	Leu	Asn 2275	Phe	Thr	Ile		Asn 2280	Leu	Gln	Tyr
Glu	Glu 2285	Asp	Met	His	His	Pro 2290	Gly	Ser	Arg	Lys	Phe 2295	Asn	Thr	Thr
Glu	Arg 2300	Val	Leu	Gln	Gly	Leu 2305		Gly	Pro	Met	Phe 2310	Lys	Asn	Thr
Ser	Val 2315	Gly	Leu	Leu	Tyr	Ser 2320	Gly	Cys	Arg	Leu	Thr 2325	Leu	Leu	Arg
Ser	Glu 2330		Asp	Gly	Ala	Ala 2335	Thr	Gly	Val	Asp	Ala 2340	Ile	Cys	Thr
His	Arg 2345	Leu	Asp	Pro	Lys	Ser 2350		Gly	Val	Asp	Arg 2355	Glu	Gln	Leu
Tyr	Trp 2360	Glu	Leu	Ser	Gln	Leu 2365	Thr	Asn	Gly	Ile	Lys 2370	Glu	Leu	Gly
Pro	Tyr 2375		Leu	Asp	Arg	Asn 2380		Leu	Tyr	Val	Asn 2385	Gly	Phe	Thr
His	Gln 2390		Ser	Ala	Pro	Asn 2395		Ser	Thr	Pro	Gly 2400		Ser	Thr
Val	Asp 2405		Gly	Thr	Ser	Gly 2410		Pro	Ser	Ser	Leu 2415	Pro	Ser	Pro
Thr	Ser 2420		Gly	Pro	Leu	Leu 2425		Pro	Phe	Thr	Leu 2430	Asn	Phe	Thr
Ile	Thr 2435		Leu	Gln	Tyr	Glu 2440		Asp	Met	Arg	His 2445		Gly	Ser
Arg	Lys 2450		Asn	Thr	Thr	Glu 2455		Val	Leu	Gln	Gly 2460	Leu	Leu	Lys
Pro	Leu 2465		Lys	Ser	Thr	Ser 2470		Gly	Pro	Leu	Tyr 2475		Gly	Cys
Arg	Leu 2480		Leu	Leu	Arg	Ser 2485		Lys	Asp	Gly	Ala 2490		Thr	Gly
Val	Asp 2495		Ile	Cys	Thr	His 2500		Leu	Asp	Pro	Lys 2505		Pro	Gly
Val	Asp 2510		Glu	Gln	. Leu	Tyr 2515		Glu	Leu	Ser	Gln 2520	Leu	Thr	Asn
Gly	7 Ile 2525		Glu	Leu	Gly	Pro 2530		Thr	Leu	Asp	Arg 2535	Asn	Ser	Leu

	Val 2540	Asn	Gly	Phe	Thr	His 2545	Gln	Thr	Ser	Ala	Pro 2550	Asn	Thr	Ser
	Pro 2555	Gly	Thr	Ser	Thr	Val 2560	Asp	Leu	Gly	Thr	Ser 2565	Gly	Thr	Pro
Ser	Ser 2570	Leu	Pro	Ser	Pro	Thr 2575	Ser	Ala	Gly	Pro	Leu 2580	Leu	Val	Pro
Phe	Thr 2585	Leu	Asn	Phe	Thr	Ile 2590	Thr	Asn	Leu	Gln	Tyr 2595	Glu	Glu	Asp
Met	His 2600	His	Pro	Gly	Ser	Arg 2605		Phe	Asn	Thr	Thr 2610	Glu	Arg	Val
Leu	Gln 2615	Gly	Leu	Leu	Gly	Pro 2620	Met	Phe	Lys	Asn	Thr 2625	Ser	Val	Gly
Leu	Leu 2630		Ser	Gly	Cys	Arg 2635		Thr	Leu	Leu	Arg 2640	Pro	Glu	Lys
Asn	Gly 2645		Ala	Thr	Gly	Met 2650		Ala	Ile	Cys	Ser 2655	His	Arg	Leu
Asp	Pro 2660		Ser	Pro	Gly	Leu 2665	Asn	Arg	Glu	Gln	Leu 2670	Tyr	Trp	Glu
	2675					2680					Gly 2685			
Leu	Asp 2690		Asn	Ser	Leu	Tyr 2695		Asn	Gly	Phe	Thr 2700	His	Arg	Ser
Ser	Val 2705		Pro	Thr	Ser	Thr 2710		Gly	Thr	Ser	Thr 2715	Val	Asp	Leu
Gly	Thr 2720		Gly	Thr	Pro	Ser 2725		Leu	Pro	Ser	Pro 2730	Thr	Thr	Ala
Val	Pro 2735		. Leu	. Val	Pro	Phe 2740		Leu	Asn	Phe	Thr 2745	Ile	Thr	Asn
Leu	Gln 2750		Gly	Glu	. Asp	Met 2755		His	Pro	Gly	Ser 2760	Arg	Lys	Phe
Asn	Thr 2765		Glu	Arg	Val	Leu 2770		Gly	r Leu	. Leu	Gly 2775	Pro	Leu	Phe
_	2780)				2785	5				Cys 2790	1		
Ser	Leu 2795	ō				2800)				Gly 2805	5		
Ile	Cys 2810		c His	s His	Leu	2815		Glr	n Ser	Pro	Gly 2820		Asp	Arg
Glu	Gln 282		туз	r Trp	o Glr	Leu 2830		Glr	n Met	Thr	Asn 2835	Gly	7 Ile	Lys

Glu	Leu 2840	Gly	Pro	Tyr	Thr	Leu 2845	Asp	Arg	Asn		Leu 2850	Tyr	Val	Asn
Gly	Phe 2855	Thr	His	Arg	Ser	Ser 2860	Gly	Leu	Thr	Thr	Ser 2865	Thr	Pro	Trp
Thr	Ser 2870	Thr	Val	Asp	Leu	Gly 2875	Thr	Ser	Gly	Thr	Pro 2880	Ser	Pro	Val
Pro	Ser 2885	Pro	Thr	Thr	Ala	Gly 2890	Pro	Leu	Leu		Pro 2895	Phe	Thr	Leu
Asn	Phe 2900	Thr	Ile	Thr	Asn	Leu 2905	Gln	Tyr	Glu	Glu	Asp 2910	Met	His	Arg
Pro	Gly 2915	Ser	Arg	Lys	Phe	Asn 2920		Thr	Glu	Arg	Val 2925	Leu	Gln	Gly
Leu	Leu 2930	Ser	Pro	Ile	Phe	Lys 2935	Asn	Ser	Ser	Val	Gly 2940	Pro	Leu	Tyr
Ser	Gly 2945	Cys	Arg	Leu	Thr	Ser 2950	Leu	Arg	Pro	Glu	Lys 2955	Asp	Gly	Ala
Ala	Thr 2960	_	Met	Asp	Ala	Val 2965		Leu	Tyr	His	Pro 2970	Asn	Pro	Lys
Arg	Pro 2975	Gly	Leu	Asp	Arg	Glu 2980		Leu	Tyr	Trp	Glu 2985	Leu	Ser	Gln
Leu	Thr 2990		Asn	Ile	Thr	Glu 2995		Gly	Pro	Tyr	Ser 3000	Leu	Asp	Arg
Asp	Ser 3005		Tyr	Val	Asn	Gly 3010		Thr	His	Gln	Asn 3015	Ser	Val	Pro
Thr	Thr 3020		Thr	Pro	Gly	Thr 3025		Thr	Val	Tyr	Trp 3030		Thr	Thr
Gly	Thr 3035		Ser	Ser	Phe	Pro 3040		His	Thr	Glu	Pro 3045	Gly	Pro	Leu
Leu	Ile 3050		Phe	Thr	Phe	Asn 3055		Thr	Ile	Thr	Asn 3060		His	Tyr
Glu	Glu 3065		Met	Gln	His	Pro 3070		Ser	Arg	Lys	Phe 3075		Thr	Thr
Glu	Arg 3080		Leu	Gln	Gly	Leu 3085		Lys	Pro	Leu	Phe 3090		Asn	Thr
	3095					3100					Thr 3105			
	3110	_				3115					Ala 3120			
Tyr	His	Pro	Asn	Pro	Lys	Arg	Pro	Gly	Leu	Asp	Arg	Glu	Gln	Leu

	3125					3130					3135			
Tyr	Cys 3140	Glu	Leu	Ser	Gln	Leu 3145		His	Asn	Ile	Thr 3150	Glu	Leu	Gly
Pro	Tyr 3155	Ser	Leu	Asp	Arg	Asp 3160	Ser	Leu	Tyr ,	Val	Asn 3165	Gly	Phe	Thr
His	Gln 3170	Asn	Ser	Val	Pro	Thr 3175	Thr	Ser	Thr	Pro	Gly 3180	Thr	Ser	Thr
Val	Tyr 3185	Trp	Ala	Thr	Thr	Gly 3190		Pro	Ser	Ser	Phe 3195		Gly	His
Thr	Glu 3200	Pro	Gly	Pro	Leu	Leu 3205	Ile	Pro	Phe	Thr	Phe 3210	Asn	Phe	Thr
Ile	Thr 3215	Asn	Leu	His	Tyr	Glu 3220	Glu	Asn	Met	Gln	His 3225	Pro	Gly	Ser
Arg	Lys 3230		Asn	Thr	Thr	Glu 3235	Arg	Val	Leu	Gln	Gly 3240		Leu	Lys
Pro	Leu 3245	Phe	Lys	Asn	Thr	Ser 3250	Val	Gly	Pro	Leu	Tyr 3255	Ser	Gly	Cys
Arg	Leu 3260	Thr	Leu	Leu	Arg	Pro 3265	Glu	Lys	His	Glu	Ala 3270	Ala	Thr	Gly
Val	Asp 3275	Thr	Ile	Cys	Thr	His 3280	Arg	Val	Asp	Pro	Ile 3285	Gly	Pro	Gly
Leu	Asp 3290	_	Glu	Arg	Leu	Tyr 3295		Glu	Leu	Ser	Gln 3300	Leu	Thr	Asn
Ser	Ile 3305	Thr	Glu	Leu	Gly	Pro 3310	Tyr	Thr	Leu	Asp	Arg 3315	Asp	Ser	Leu
Tyr	Val 3320	Asn	Gly	Phe	Asn	Pro 3325	Arg	Ser	Ser	Val	Pro 3330	Thr	Thr	Ser
Thr	Pro 3335	Gly	Thr	Ser	Thr	Val 3340	His	Leu	Ala	Thr	Ser 3345	Gly	Thr	Pro
Ser	Ser 3350	Leu	Pro	Gly	His	Thr 3355	Ala	Pro	Val	Pro	Leu 3360	Leu	Ile	Pro
Phe	Thr 3365	Leu	Asn	Phe	Thr	Ile 3370	Thr	Asn	Leu	His	Tyr 3375	Glu	Glu	Asn
Met	Gln 3380	His	Pro	Gly	Ser	Arg 3385	Lys	Phe	Asn	Thr	Thr 3390	Glu	Arg	Val
Leu	Gln 3395	Gly	Leu	Leu	Lys	Pro 3400	Leu	Phe	Lys	Asn	Thr 3405	Ser	Val	Gly
Pro	Leu 3410	Tyr	Ser	Gly	Cys	Arg 3415	Leu	Thr	Leu	Leu	Arg 3420	Pro	Glu	Lys

His	Glu 3425	Ala	Ala	Thr	Gly	Val 3430	Asp	Thr	Ile	Cys	Thr 3435	His	Arg	Val
Asp	Pro 3440	Ile	Gly	Pro	Gly	Leu 3445	Asp	Arg	Glu	Xaa	Leu 3450	Tyr	Trp	Glu
Leu	Ser 3455	Xaa	Leu	Thr	Xaa	Xaa 3460	Ile	Xaa	Glu	Leu	Gly 3465	Pro	Tyr	Xaa
Leu	Asp 3470	Arg	Xaa	Ser	Leu	Tyr 3475	Val	Asn	Gly	Phe	Xaa 3480	Xaa	Xaa	Xaa
Xaa	Xaa 3485	Xaa	Xaa	Thr	Ser	Thr 3490	Pro	Gly	Thr	Ser	Xaa 3495	Val	Xaa	Leu
Xaa	Thr 3500	Ser	Gly	Thr	Pro	Xaa 3505	Xaa	Xaa	Pro	Xaa	Xaa 3510	Thr	Ser	Ala
Gly	Pro 3515	Leu	Leu	Val	Pro	Phe 3520	Thr	Leu	Asn	Phe	Thr 3525	Ile	Thr	Asn
Leu	Gln 3530	_	Glu	Glu	Asp	Met 3535	His	His	Pro	Gly	Ser 3540	Arg	Lys	Phe
Asn	Thr 3545	Thr	Glu	Arg	Val	Leu 3550	Gln	Gly	Leu	Leu	Gly 3555	Pro	Met	Phe
Lys	Asn 3560	Thr	Ser	Val	Gly	Leu 3565	Leu	Tyr	Ser	Gly	Cys 3570	Arg	Leu	Thr
Leu	Leu 3575	_	Pro	Glu	Lys	Asn 3580		Ala	Ala	Thr	Gly 3585	Met	Asp	Ala
Ile	Cys 3590		His	Arg	Leu	Asp 3595		Lys	Ser	Pro	Gly 3600	Leu	Asp	Arg
Glu	Gln 3605		Tyr	Trp	Glu	Leu 3610	Ser	Gln	Leu	Thr	His 3615	Gly	Ile	Lys
Glu	Leu 3620		Pro	Tyr	Thr	Leu 3625		Arg	Asn	Ser	Leu 3630	Tyr	Val	Asn
Gly	Phe 3635		His	Arg	Ser	Ser 3640		Ala	Pro	Thr	Ser 3645		Pro	Gly
Thr	Ser 3650		Val	Asp	Leu	Gly 3655		Ser	Gly	Thr	Pro 3660	Ser	Ser	Leu
Pro	Ser 3665		Thr	Thr	Ala	Val 3670	Pro	Leu	Leu	Val	Pro 3675	Phe	Thr	Leu
Asn	Phe 3680		Ile	Thr	Asn	Leu 3685		Tyr	Gly	Glu	Asp 3690		Arg	His
Pro	Gly 3695		Arg	Lys	Phe	Asn 3700		Thr	Glu	Arg	Val 3705	Leu	Gln	Gly
Leu	Leu 3710		Pro	Leu	Phe	Lys 3715		Ser	Ser	Val	Gly 3720		Leu	Tyr

Ser	Gly 3725	Cys	Arg	Leu	Ile	Ser 3730	Leu	Arg	Ser	Glu	Lys 3735	_	Gly	Ala
Ala	Thr 3740	Gly	Val	Asp	Ala	Ile 3745	Cys	Thr	His	His	Leu 3750	Asn	Pro	Gln
Ser	Pro 3755	Gly	Leu	Asp	Arg	Glu 3760	Gln	Leu	Tyr	Trp	Gln 3765	Leu	Ser	Gln
Met	Thr 3770	Asn	Gly	Ile	Lys	Glu 3775	Leu	Gly	Pro	Tyr	Thr 3780	Leu	Asp	Arg
Asn	Ser 3785	Leu	Tyr	Val	Asn	Gly 3790	Phe	Thr	His	Arg	Ser 3795	Ser	Gly	Leu
Thr	Thr 3800	Ser	Thr	Pro	Trp	Thr 3805	Ser	Thr	Val	Asp	Leu 3810	Gly	Thr	Ser
Gly	Thr 3815	Pro	Ser	Pro	Val	Pro 3820	Ser	Pro	Thr	Thr	Ala 3825	Gly	Pro	Leu
Leu	Val 3830	Pro	Phe	Thr	Leu	Asn 3835	Phe	Thr	Ile	Thr	Asn 3840	Leu	Gln	Tyr
Glu	Glu 3845	Asp	Met	His	Arg	Pro 3850	Gly	Ser	Arg	Lys	Phe 3855	Asn	Ala	Thr
Glu	Arg 3860	Val	Leu	Gln	Gly	Leu 3865	Leu	Ser	Pro	Ile	Phe 3870	Lys	Asn	Ser
Ser	Val 3875	Gly	Pro	Leu	Tyr	Ser 3880	Gly	Cys	Arg	Leu	Thr 3885	Ser	Leu	Arg
Pro	Glu 3890	Lys	Asp	Gly	Ala	Ala 3895	Thr	Gly	Met	Asp	Ala 3900	Val	Cys	Leu
Tyr	His 3905	Pro	Asn	Pro	Lys	Arg 3910	Pro	Gly	Leu	Asp	Arg 3915	Glu	Gln	Leu
Tyr	Trp 3920	Glu	Leu	Ser	Gln	Leu 3925	Thr	His	Asn	Ile	Thr 3930	Glu	Leu	Gly
Pro	Tyr 3935	Ser	Leu	Asp	Arg	Asp 3940	Ser	Leu	Tyr	Val	Asn 3945	Gly	Phe	Thr
His	Gln 3950	Ser	Ser	Met	Thr	Thr 3955	Thr	Arg	Thr	Pro	Asp 3960	Thr	Ser	Thr
Met	His 3965	Leu	Ala	Thr	Ser	Arg 3970	Thr	Pro	Ala	Ser	Leu 3975	Ser	Gly	Pro
Thr	Thr 3980	Ala	Ser	Pro	Leu	Leu 3985	Val	Leu	Phe	Thr	Ile 3990	Asn	Cys	Thr
Ile	Thr 3995	Asn	Leu	Gln	Tyr	Glu 4000	Glu	Asp	Met	Arg	Arg 4005	Thr	Gly	Ser
Arg	Lys	Phe	Asn	Thr	Met	Glu	Ser	Val	Leu	Gln	Gly	Leu	Leu	Lys

4	010					4015					4020			
Pro Lo	eu 025	Phe	Lys	Asn	Thr	Ser 4030	Val	Gly	Pro	Leu	Tyr 4035	Ser	Gly	Cys
Arg Lo	eu 040	Thr	Leu	Leu	Arg	Pro 4045	Lys	Lys	Asp	Gly	Ala 4050	Ala	Thr	Gly
Val A	sp 055	Ala	Ile	Cys	Thr	His 4060	Arg	Leu	Asp	Pro	Lys 4065	Ser	Pro	Gly
Leu A	.sn 070	Arg	Glu	Gln	Leu	Tyr 4075	Trp	Glu	Leu	Ser	Lys 4080	Leu	Thr	Asn
Asp I	le 085	Glu	Glu	Leu	Gly	Pro 4090	Tyr	Thr	Leu	Asp	Arg 4095	Asn	Ser	Leu
Tyr V	al 100	Asn	Gly	Phe	Thr	His 4105	Gln	Ser	Ser	Val	Ser 4110	Thr	Thr	Ser
Thr P	ro 115	Gly	Thr	Ser	Thr	Val 4120	Asp	Leu	Arg	Thr	Ser 4125	Gly	Thr	Pro
Ser S	er 130	Leu	Ser	Ser	Pro	Thr 4135	Ile	Met	Xaa	Xaa	Xaa 4140	Pro	Leu	Leu
Xaa P 4	ro 145	Phe	Thr	Leu		Phe 4150	Thr	Ile	Thr	Asn	Leu 4155	Xaa	Tyr	Glu
Glu X 4	aa 160	Met	Xaa	Xaa	Pro	Gly 4165	Ser	Arg	Lys	Phe	Asn 4170	Thr	Thr	Glu
Arg V	al 175	Leu	Gln	Gly	Leu	Leu 4180	Arg	Pro	Leu	Phe	Lys 4185	Asn	Thr	Ser
Val S 4	er 190	Ser	Leu	Tyr	Ser	Gly 4195	Cys	Arg	Leu	Thr	Leu 4200	Leu	Arg	Pro
Glu L 4	ys 205	Asp	Gly	Ala	Ala	Thr 4210	Arg	Val	Asp	Ala	Ala 4215	Cys	Thr	Tyr
Arg P	ro 220	Asp	Pro	Lys	Ser	Pro 4225	Gly	Leu	Asp	Arg	Glu 4230	Gln	Leu	Tyr
Trp G 4	lu 235	Leu	Ser	Gln	Leu	Thr 4240	His	Ser	Ile	Thr	Glu 4245	Leu	Gly	Pro
Tyr T	hr 250	Leu	Asp	Arg	Val	Ser 4255	Leu	Tyr	Val	Asn	Gly 4260	Phe	Asn	Pro
Arg S 4	er 265	Ser	Val	Pro	Thr	Thr 4270	Ser	Thr	Pro	Gly	Thr 4275	Ser	Thr	Val
His L 4	eu 280	Ala	Thr	Ser	Gly	Thr 4285	Pro	Ser	Ser	Leu	Pro 4290	Gly	His	Thr
Xaa X 4	aa 295	Xaa	Pro	Leu	Leu	Xaa 4300	Pro	Phe	Thr	Leu	Asn 4305	Phe	Thr	Ile

Thr	Asn 4310	Leu	Xaa	Tyr	Glu	Glu 4315	Xaa	Met	Xaa	Xaa	Pro 4320	Gly	Ser	Arg
Lys	Phe 4325		Thr	Thr	Glu	Arg 4330	Val	Leu	Gln	Gly	Leu 4335	Leu	Lys	Pro
Leu	Phe 4340	_	Asn	Ser	Ser	Leu 4345		Tyr	Leu	Tyr	Ser 4350	Gly	Cys	Arg
Leu	Ala 4355	Ser	Leu	Arg	Pro	Glu 4360	Lys	Asp	Ser	Ser	Ala 4365	Met	Ala	Val
Asp	Ala 4370		Cys	Thr	His	Arg 4375		Asp	Pro	Glu	Asp 4380	Leu	Gly	Leu
Asp	Arg 4385	Glu	Arg	Leu	Tyr	Trp 4390	Glu	Leu	Ser	Asn	Leu 4395	Thr	Asn	Gly
Ile	Gln 4400	Glu	Leu	Gly	Pro	Tyr 4405	Thr	Leu	Asp	Arg	Asn 4410	Ser	Leu	Tyr
Val	Asn 4415	-	Phe	Thr		Arg 4420	Ser	Ser	Phe	Leu	Thr 4425	Thr	Ser	Thr
Pro	Trp 4430	Thr	Ser	Thr	Val	Asp 4435	Leu	Gly	Thr	Ser	Gly 4440	Thr	Pro	Ser
Pro	Val 4445	Pro	Ser	Pro	Thr	Thr 4450	Ala	Gly	Pro	Leu	Leu 4455	Val	Pro	Phe
Thr	Leu 4460	Asn	Phe	Thr		Thr 4465	Asn	Leu	Gln	Tyr	Glu 4470	Glu	Asp	Met
His	Arg 4475	Pro	Gly	Ser	Arg	Arg 4480	Phe	Asn	Thr	Thr	Glu 4485	Arg	Val	Leu
Gln	Gly 4490		Leu	Thr	Pro	Leu 4495	Phe	Lys	Asn	Thr	Ser 4500	Val	Gly	Pro
Leu	Tyr 4505		Gly	Cys	Arg	Leu 4510	Thr	Leu	Leu	Arg	Pro 4515	Glu	Lys	Gln
Glu	Ala 4520	Ala	Thr	Gly	Val	Asp 4525	Thr	Ile	Cys	Thr	His 4530	Arg	Val	Asp
Pro	Ile 4535	Gly	Pro	Gly	Leu	Asp 4540	Arg	Glu	Arg	Leu	Tyr 4545	Trp	Glu	Leu
Ser	Gln 4550	Leu	Thr	Asn	Ser	Ile 4555	Thr	Glu	Leu	Gly	Pro 4560	Tyr	Thr	Leu
Asp	Arg 4565	Asp	Ser	Leu	Tyr	Val 4570	Asn	Gly	Phe	Asn	Pro 4575	Trp	Ser	Ser
Val	Pro 4580	Thr	Thr	Ser	Thr	Pro 4585	Gly	Thr	Ser	Thr	Val 4590	His	Leu	Ala
Thr	Ser 4595	Gly	Thr	Pro	Ser	Ser 4600	Leu	Pro	Gly	His	Thr 4605	Ala	Pro	Val

Pro	Leu 4610	Leu	Ile	Pro	Phe	Thr 4615	Leu	Asn	Phe	Thr	Ile 4620	Thr	Asp	Leu
His	Tyr 4625	Glu	Glu	Asn	Met	Gln 4630	His	Pro	Gly	Ser	Arg 4635	Lys	Phe	Asn
Thr	Thr 4640	Glu	Arg	Val	Leu	Gln 4645		Leu	Leu	Lys	Pro 4650	Leu	Phe	Lys
Ser	Thr 4655	Ser	Val	Gly	Pro	Leu 4660	Tyr	Ser	Gly	Cys	Arg 4665	Leu	Thr	Leu
Leu	Arg 4670	Pro	Glu	Lys	His	Gly 4675	Ala	Ala	Thr	Gly	Val 4680	Asp	Ala	Ile
Cys	Thr 4685	Leu	Arg	Leu	Asp	Pro 4690	Thr	Gly	Pro		Leu 4695	Asp	Arg	Glu
Arg	Leu 4700	Tyr	Trp	Glu	Leu	Ser 4705	Gln	Leu	Thr	Asn	Ser 4710	Val	Thr	Glu
Leu	Gly 4715	Pro	Tyr	Thr	Leu	Asp 4720		Asp	Ser	Leu	Tyr 4725	Val	Asn	Gly
Phe	Thr 4730	His	Arg	Ser	Ser	Val 4735	Pro	Thr	Thr	Ser	Ile 4740	Pro	Gly	Thr
Ser	Ala 4745	Val	His	Leu	Glu	Thr 4750	Ser	Gly	Thr	Pro	Ala 4755	Ser	Leu	Pro
Gly	His 4760	Thr	Ala	Pro	Gly	Pro 4765	Leu	Leu	Val	Pro	Phe 4770	Thr	Leu	Asn
Phe	Thr 4775	Ile	Thr	Asn	Leu	Gln 4780	Tyr	Glu	Glu	Asp	Met 4785	Arg	His	Pro
Gly	Ser 4790	Arg	Lys	Phe	Ser	Thr 4795	Thr	Glu	Arg	Val	Leu 4800	Gln	Gly	Leu
Leu	Lys 4805	Pro	Leu	Phe	Lys	Asn 4810	Thr	Ser	Val	Ser	Ser 4815	Leu	Tyr	Ser
Gly	Cys 4820		Leu	Thr	Leu	Leu 4825		Pro	Glu	Lys	Asp 4830		Ala	Ala
Thr	Arg 4835	Val	Asp	Ala	Val	Cys 4840	Thr	His	Arg	Pro	Asp 4845	Pro	Lys	Ser
Pro	Gly 4850		Asp	Arg	Glu	Arg 4855		Tyr	Trp	Lys	Leu 4860	Ser	Gln	Leu
Thr	His 4865		Ile	Thr	Glu	Leu 4870		Pro	Tyr	Thr	Leu 4875	Asp	Arg	His
Ser	Leu 4880	Tyr	Val	Asn	Gly	Phe 4885	Thr	His	Gln	Ser	Ser 4890	Met	Thr	Thr
Thr	Arg	Thr	Pro	Asp	Thr	Ser	Thr	Met	His	Leu	Ala	Thr	Ser	Arg

	4895					4900					4905			
Thr	Pro 4910	Ala	Ser	Leu	Ser	Gly 4915	Pro	Thr	Thr	Ala	Ser 4920	Pro	Leu	Leu
Val	Leu 4925	Phe	Thr	Ile	Asn	Phe 4930	Thr	Ile	Thr	Asn	Gln 4935	Arg	Tyr	Glu
Glu	Asn 4940	Met	His	His	Pro	Gly 4945	Ser	Arg	Lys	Phe	Asn 4950	Thr	Thr	Glu
Arg	Val 4955	Leu	Gln	Gly	Leu	Leu 4960	Arg	Pro	Val	Phe	Lys 4965	Asn	Thr	Ser
Val	Gly 4970	Pro	Leu	Tyr	Ser	Gly 4975	Cys	Arg	Leu	Thr	Leu 4980	Leu	Arg	Pro
Lys	Lys 4985	Asp	Gly	Ala	Ala	Thr 4990	Lys	Val	Asp	Ala	Ile 4995	Cys	Thr	Tyr
Arg	Pro 5000	Asp	Pro	Lys	Ser	Pro 5005	Gly	Leu	Asp	Arg	Glu 5010	Gln	Leu	Tyr
Trp	Glu 5015	Leu	Ser	Gln	Leu	Thr 5020	His	Ser	Ile	Thr	Glu 5025	Leu	Gly	Pro
Tyr	Thr 5030	Gln	Asp	Arg	Asp	Ser 5035	Leu	Tyr	Val	Asn	Gly 5040	Phe	Thr	His
Arg	Ser 5045	Ser	Val	Pro	Thr	Thr 5050	Ser	Ile	Pro	Gly	Thr 5055	Ser	Ala	Val
His	Leu 5060	Glu	Thr	Ser	Gly	Thr 5065	Pro	Ala	Ser	Leu	Pro 5070	Gly	His	Thr
Ala	Pro 5075	Gly	Pro	Leu	Leu	Val 5080	Pro	Phe	Thr	Leu	Asn 5085	Phe	Thr	Ile
	5090			•		Glu 5095	_		_		5100	_		
Lys	Phe 5105	Asn	Thr	Thr	Glu	Arg 5110	Val	Leu	Gln	Gly	Leu 5115	Leu	Lys	Pro
Leu	Phe 5120	Lys	Ser	Thr	Ser	Val 5125	Gly	Pro	Leu	Tyr	Ser 5130	Gly	Cys	Arg
Leu	Thr 5135	Leu	Leu	Arg	Pro	Glu 5140	Lys	Arg	Gly	Ala	Ala 5145	Thr	Gly	Val
Asp	Thr 5150	Ile	Cys	Thr	His	Arg 5155	Leu	Asp	Pro	Leu	Asn 5160	Pro	Gly	Leu
Asp	Arg 5165	Glu	Gln	Leu	Tyr	Trp 5170	Glu	Leu	Ser	Lys	Leu 5175	Thr	Arg	Gly
Ile	Ile 5180	Glu	Leu	Gly	Pro	Tyr 5185	Leu	Leu	Asp	Arg	Gly 5190	Ser	Leu	Tyr

Val	Asn 5195	Gly	Phe	Thr	His	Arg 5200	Thr	Ser	Val	Pro	Thr 5205	Thr	Ser	Thr
Pro	Gly 5210	Thr	Ser	Thr	Val	Asp 5215	Leu	Gly	Thr	Ser	Gly 5220	Thr	Pro	Phe
Ser	Leu 5225	Pro	Ser	Pro	Ala	Xaa 5230	Xaa	Xaa	Pro	Leu	Leu 5235	Xaa	Pro	Phe
Thr	Leu 5240	Asn	Phe	Thr	Ile	Thr 5245	Asn	Leu	Xaa	Tyr	Glu 5250	Glu	Xaa	Met
Xaa	Xaa 5255	Pro	Gly	Ser	Arg	Lys 5260	Phe	Asn	Thr	Thr	Glu 5265	Arg	Val	Leu
Gln	Thr 5270	Leu	Leu	Gly	Pro	Met 5275	Phe	Lys	Asn	Thr	Ser 5280	Val	Gly	Leu
Leu	Tyr 5285	Ser	Gly	Cys	Arg	Leu 5290	Thr	Leu	Leu	Arg	Ser 5295	Glu	Lys	Asp
Gly	Ala 5300	Ala	Thr	Gly	Val	Asp 5305	Ala	Ile	Cys	Thr	His 5310	Arg	Leu	Asp
Pro	Lys 5315	Ser	Pro	Gly	Val	Asp 5320	Arg	Glu	Gln	Leu	Tyr 5325	Trp	Glu	Leu
Ser	Gln 5330	Leu	Thr	Asn	Gly	Ile 5335	Lys	Glu	Leu	Gly	Pro 5340	Tyr	Thr	Leu
Asp	Arg 5345	Asn	Ser	Leu	Tyr	Val 5350	Asn	Gly	Phe	Thr	His 5355	Trp	Ile	Pro
Val	Pro 5360	Thr	Ser	Ser	Thr	Pro 5365	Gly	Thr	Ser	Thr	Val 5370	Asp	Leu	Gly
Ser	Gly 5375	Thr	Pro	Ser	Leu	Pro 5380	Ser	Ser	Pro	Thr	Thr 5385	Ala	Gly	Pro
Leu	Leu 5390	Val	Pro	Phe	Thr	Leu 5395	Asn	Phe	Thr	Ile	Thr 5400	Asn	Leu	Lys
Tyr	Glu 5405		Asp	Met	His	Cys 5410		Gly	Ser	Arg	Lys 5415	Phe	Asn	Thr
Thr	Glu 5420	Arg	Val	Leu	Gln	Ser 5425	Leu	Leu	Gly	Pro	Met 5430	Phe	Lys	Asn
Thr	Ser 5435	Val	Gly	Pro	Leu	Tyr 5440		Gly	Cys	Arg	Leu 5445	Thr	Leu	Leu
Arg	Ser 5450		Lys	Asp	Gly	Ala 5455		Thr	Gly	Val	Asp 5460	Ala	Ile	Cys
Thr	His 5465		Leu	Asp	Pro	Lys 5470	Ser	Pro	Gly	Val	Asp 5475	Arg	Glu	Gln

Gly	Pro 5495	Tyr	Thr	Leu	Asp	Arg 5500	Asn	Ser	Leu	Tyr	Val 5505	Asn	Gly	Phe
Thr	His 5510	Gln	Thr	Ser	Ala	Pro 5515	Asn	Thr	Ser	Thr	Pro 5520	Gly	Thr	Ser
Thr	Val 5525	Asp	Leu	Gly	Thr	Ser 5530	Gly	Thr	Pro	Ser	Ser 5535	Leu	Pro	Ser
Pro	Thr 5540	Xaa	Xaa	Xaa	Pro	Leu 5545	Leu	Xaa	Pro	Phe	Thr 5550	Leu	Asn	Phe
Thr	Ile 5555	Thr	Asn	Leu	Xaa	Tyr 5560		Glu	Xaa	Met	Xaa 5565	Xaa	Pro	Gly
Ser	Arg 5570	Lys	Phe	Asn	Thr	Thr 5575	Glu	Arg	Val	Leu	Gln 5580	Gly	Leu	Leu
Xaa	Pro 5585	Xaa	Phe	Lys	Xaa	Thr 5590	Ser	Val	Gly	Xaa	Leu 5595	Tyr	Ser	Gly
Cys	Arg 5600	Leu	Thr	Leu	Leu	Arg 5605		Glu	Lys	Xaa	Xaa 5610	Ala	Ala	Thr
Xaa	Val 5615	Asp	Xaa	Xaa	Cys	Xaa 5620	Xaa	Xaa	Xaa	Asp	Pro 5625	Xaa	Xaa	Pro
Gly	Leu 5630		Arg	Glu	Xaa	Leu 5635		Trp	Glu	Leu	Ser 5640	Xaa	Leu	Thr
Xaa	Xaa 5645		Xaa	Glu	Leu	Gly 5650		Tyr	Xaa	Leu	Asp 5655	Arg	Xaa	Ser
Leu	Tyr 5660	Val	Asn	Gly	Phe	Thr 5665	His	Trp	Ile	Pro	Val 5670	Pro	Thr	Ser
Ser	Thr 5675		Gly	Thr	Ser	Thr 5680	Val	Asp	Leu	Gly	Ser 5685	Gly	Thr	Pro
Ser	Ser 5690		Pro	Ser	Pro	Thr 5695		Ala	Gly	Pro	Leu 5700	Leu	Val	Pro
Phe	Thr 5705		Asn	Phe	Thr	Ile 5710		Asn	Leu	Lys	Tyr 5715		Glu	Asp
Met	His 5720	Cys	Pro	Gly	Ser	Arg 5725		Phe	Asn	Thr	Thr 5730	Glu	Arg	Val
Leu	Gln 5735		Leu	Leu	Gly	Pro 5740		Phe	Lys	Asn	Thr 5745	Ser	Val	Gly
Pro	Leu 5750		Ser	Gly	Cys	Arg 5755		Thr	Ser	Leu	Arg 5760		Glu	Lys
Asp	Gly 5765		Ala	Thr	Gly	Val 5770	_	Ala	Ile	Cys	Thr 5775	His	Arg	Val
Asp	Pro	Lys	Ser	Pro	Gly	Val	Asp	Arg	Glu	Gln	Leu	Tyr	Trp	Glu

	5780					5785					5790			
Leu	Ser 5795	Gln	Leu	Thr	Asn	Gly 5800	Ile	Lys	Glu	Leu	Gly 5805	Pro	Tyr	Thr
Leu	Asp 5810	Arg	Asn	Ser	Leu	Tyr 5815	Val	Asn	Gly	Phe	Thr 5820	His	Gln	Thr
Ser	Ala 5825	Pro	Asn	Thr	Ser	Thr 5830	Pro	Gly	Thr	Ser	Thr 5835	Val	Asp	Leu
Gly	Thr 5840	Ser	Gly	Thr	Pro	Ser 5845	Ser	Leu	Pro	Ser	Pro 5850	Thr	Ser	Ala
Gly	Pro 5855	Leu	Leu	Val	Pro	Phe 5860	Thr	Leu	Asn	Phe	Thr 5865	Ile	Thr	Asn
Leu	Gln 5870	Tyr	Glu	Glu	Asp	Met 5875	His	His	Pro	Gly	Ser 5880	Arg	Lys	Phe
Asn	Thr 5885	Thr	Glu	Arg	Val	Leu 5890	Gln	Gly	Leu	Leu	Gly 5895	Pro	Met	Phe
Lys	Asn 5900	Thr	Ser	Val	Gly	Leu 5905	Leu	Tyr	Ser	Gly	Cys 5910	Arg	Leu	Thr
Leu	Leu 5915	Arg	Pro	Glu	Lys	Asn 5920	Gly	Ala	Ala	Thr	Gly 5925	Met	Asp	Ala
Ile	Cys 5930	Thr	His	Arg	Leu	Asp 5935	Pro	Lys	Ser	Pro	Gly 5940	Leu	Asp	Arg
Glu	Xaa 5945	Leu	Tyr	Trp	Glu	Leu 5950		Xaa	Leu	Thr	Xaa 5955	Xaa	Ile	Xaa
Glu	Leu 5960	_	Pro	Tyr	Xaa	Leu 5965	_	Arg	Xaa	Ser	Leu 5970	Tyr	Val	Asn
Gly	Phe 5975	Xaa	Xaa	Xaa	Xaa	Xaa 5980	Xaa	Xaa	Xaa	Thr	Ser 5985	Thr	Pro	Gly
Thr	Ser 5990	Xaa	Val	Xaa	Leu	Xaa 5995	Thr	Ser	Gly	Thr	Pro 6000	Xaa	Xaa	Xaa
Pro	Xaa 6005	Xaa	Thr	Xaa	Xaa	Xaa 6010		Leu	Leu	Xaa	Pro 6015	Phe	Thr	Leu
Asn	Phe 6020	Thr	Ile	Thr	Asn	Leu 6025	Xaa	Tyr	Glu	Glu	Xaa 6030	Met	Xaa	Xaa
Pro	Gly 6035	Ser	Arg	Lys	Phe	Asn 6040		Thr	Glu	Arg	Val 6045	Leu	Gln	Gly
Leu	Leu 6050		Pro	Leu	Phe	Arg 6055		Ser	Ser	Leu	Glu 6060	Tyr	Leu	Tyr
Ser	Gly 6065		Arg	Leu	Ala	Ser 6070	Leu	Arg	Pro	Glu	Lys 6075	Asp	Ser	Ser

Ala	Met 6080	Ala	Val	Asp	Ala	Ile 6085	Cys	Thr	His	Arg	Pro 6090	Asp	Pro	Glu
Asp	Leu 6095	Gly	Leu	Asp	Arg	Glu 6100	Arg	Leu	Tyr	Trp	Glu 6105	Leu	Ser	Asn
Leu	Thr 6110	Asn	Gly	Ile	Gln	Glu 6115	Leu	Gly	Pro	Tyr	Thr 6120	Leu	Asp	Arg
Asn	Ser 6125	Leu	Tyr	Val	Asn	Gly 6130	Phe	Thr	His	Arg	Ser 6135	Ser	Met	Pro
Thr	Thr 6140	Ser	Thr	Pro	Gly	Thr 6145	Ser	Thr	Val	Asp	Val 6150	Gly	Thr	Ser
Gly	Thr 6155	Pro	Ser	Ser	Ser	Pro 6160	Ser	Pro	Thr	Thr	Ala 6165	Gly	Pro	Leu
Leu	Ile 6170	Pro	Phe	Thr		Asn 6175	Phe	Thr	Ile	Thr	Asn 6180	Leu	Gln	Tyr
Gly	Glu 6185	Asp	Met	Gly	His	Pro 6190	Gly	Ser	Arg	Lys	Phe 6195	Asn	Thr	Thr
Glu	Arg 6200	Val	Leu	Gln	Gly	Leu 6205	Leu	Gly	Pro	Ile	Phe 6210	Lys	Asn	Thr
Ser	Val 6215	Gly	Pro	Leu	Tyr	Ser 6220	Gly	Cys	Arg	Leu	Thr 6225	Ser	Leu	Arg
Ser	Glu 6230	Lys	Asp	Gly	Ala	Ala 6235	Thr	Gly	Val	Asp	Ala 6240	Ile	Cys	Ile
His	His 6245	Leu	Asp	Pro	Lys	Ser 6250	Pro	Gly	Leu	Asn	Arg 6255	Glu	Arg	Leu
Tyr	Trp 6260		Leu	Ser		Leu 6265	Thr	Asn	Gly	Ile	Lys 6270	Glu	Leu	Gly
Pro	Tyr 6275	Thr	Leu	Asp	Arg	Asn 6280	Ser	Leu	Tyr	Val	Asn 6285	Gly	Phe	Thr
His	Arg 6290		Ser	Val	Pro	Thr 6295	Thr	Ser	Thr	Pro	Gly 6300	Thr	Ser	Thr
Val	Asp 6305		Gly	Thr	Ser	Gly 6310		Pro	Phe	Ser	Leu 6315	Pro	Ser	Pro
Ala	Thr 6320	Ala	Gly	Pro	Leu	Leu 6325	Val	Leu	Phe	Thr	Leu 6330	Asn	Phe	Thr
Ile	Thr 6335	Asn	Leu	Lys	Tyr	Glu 6340	Glu	Asp	Met	His	Arg 6345	Pro	Gly	Ser
Arg	Lys 6350		Asn	Thr	Thr	Glu 6355	Arg	Val	Leu	Gln	Thr 6360	Leu	Leu	Gly
Pro	Met 6365	Phe	Lys	Asn	Thr	Ser 6370	Val	Gly	Leu	Leu	Tyr 6375	Ser	Gly	Cys

Arg	Leu 6380	Thr	Leu	Leu	Arg	Ser 6385	Glu	Lys	Asp	Gly	Ala 6390	Ala	Thr	Gly
Val	Asp 6395	Ala	Ile	Cys	Thr	His 6400	Arg	Leu	Asp	Pro	Lys 6405	Ser	Pro	Gly
Leu	Asp 6410	Arg	Glu	Xaa	Leu	Tyr 6415	Trp	Glu	Leu	Ser	Xaa 6420	Leu	Thr	Xaa
Xaa	Ile 6425	Xaa	Glu	Leu	Gly	Pro 6430	Tyr	Xaa	Leu	Asp	Arg 6435	Xaa	Ser	Leu
Tyr	Val 6440	Asn	Gly	Phe	Xaa	Xaa 6445		Xaa	Xaa	Xaa	Xaa 6450	Xaa	Thr	Ser
Thr	Pro 6455	Gly	Thr	Ser	Xaa	Val 6460	Xaa	Leu	Xaa	Thr	Ser 6465	Gly	Thr	Pro
Xaa	Xaa 6470	Xaa	Pro	Xaa	Xaa	Thr 6475	Xaa	Xaa	Xaa	Pro	Leu 6480	Leu	Xaa	Pro
Phe	Thr 6485					6490					Tyr 6495			
Met	Xaa 6500	Xaa	Pro	Gly	Ser	Arg 6505	Lys	Phe	Asn	Thr	Thr 6510	Glu	Arg	Val
Leu	Gln 6515	Gly	Leu	Leu	Arg	Pro 6520	Val	Phe	Lys	Asn	Thr 6525	Ser	Val	Gly
	Leu 6530	_		_	_	6535					Arg 6540		Lys	Lys
	Gly 6545				-	6550					6555		Arg	
	Pro 6560					6565					6570			
	Ser 6575					6580					6585			
Gln	Asp 6590	_	Asp	Ser	Leu	Tyr 6595	Val	Asn	Gly	Phe	Thr 6600	His	Arg	Ser
Ser	Val 6605	Pro	Thr	Thr	Ser	Ile 6610	Pro	Gly	Thr	Ser	Ala 6615	Val	His	Leu
Glu	Thr 6620		_			6625					His 6630		Glu	Pro
1	Pro 6635					6640					Thr 6645		Thr	
Leu	Arg 6650		Glu	Glu	Asn	Met 6655	Gln	His	Pro	Gly	Ser 6660	Arg	Lys	Phe
Asn	Thr	Thr	Glu	Arg	Val	Leu	Gln	Gly	Leu	Leu	Thr	Pro	Leu	Phe

	6665					6670					6675			
Lys	Asn 6680	Thr	Ser	Val	Gly	Pro 6685	Leu	Tyr	Ser	Gly	Cys 6690	Arg	Leu	Thr
Leu	Leu 6695	Arg	Pro	Glu	Lys	Gln 6700	Glu	Ala	Ala	Thr	Gly 6705	Val	Asp	Thr
Ile	Cys 6710	Thr	His	Arg	Val	Asp 6715	Pro	Ile	Gly	Pro	Gly 6720	Leu	Asp	Arg
Glu	Arg 6725	Leu	Tyr	Trp	Glu	Leu 6730	Ser	Gln	Leu	Thr	Asn 6735	Ser	Ile	Thr
Glu	Leu 6740	Gly	Pro	Tyr	Thr	Leu 6745	Asp	Arg	Asp	Ser	Leu 6750	Tyr	Val	Asp
Gly	Phe 6755	Asn	Pro	Trp	Ser	Ser 6760	Val	Pro	Thr	Thr	Ser 6765	Thr	Pro	Gly
Thr	Ser 6770	Thr	Val	His	Leu	Ala 6775	Thr	Ser	Gly	Thr	Pro 6780	Ser	Pro	Leu
Pro	Gly 6785	His	Thr	Ala	Pro	Val 6790	Pro	Leu	Leu	Ile	Pro 6795	Phe	Thr	Leu
Asn	Phe 6800	Thr	Ile	Thr	Asp	Leu 6805	His	Tyr	Glu	Glu	Asn 6810	Met	Gln	His
Pro	Gly 6815	Ser	Arg	Lys	Phe	Asn 6820	Thr	Thr	Glu	Arg	Val 6825	Leu	Gln	Gly
Leu	Leu 6830	Lys	Pro	Leu	Phe	Lys 6835	Ser	Thr	Ser	Val	Gly 6840	Pro	Leu	Tyr
Ser	Gly 6845	Cys	Arg	Leu	Thr	Leu 6850	Leu	Arg	Pro	Glu	Lys 6855	His	Gly	Ala
Ala	Thr 6860	Gly	Val	Asp	Ala	Ile 6865	Cys	Thr	Leu	Arg	Leu 6870	Asp	Pro	Thr
Gly	Pro 6875	Gly	Leu	Asp	Arg	Glu 6880	Arg	Leu	Tyr	Trp	Glu 6885	Leu	Ser	Gln
Leu	Thr 6890	Asn	Ser	Ile	Thr	Glu 6895	Leu	Gly	Pro	Tyr	Thr 6900	Leu	Asp	Arg
Asp	Ser 6905	Leu	Tyr	Val	Asn	Gly 6910	Phe	Asn	Pro	Trp	Ser 6915	Ser	Val	Pro
Thr	Thr 6920	Ser	Thr	Pro	Gly	Thr 6925	Ser	Thr	Val	His	Leu 6930	Ala	Thr	Ser
Gly	Thr 6935	Pro	Ser	Ser	Leu	Pro 6940	Gly	His	Thr	Thr	Ala 6945	Gly	Pro	Leu
Leu	Val 6950	Pro	Phe	Thr	Leu	Asn 6955	Phe	Thr	Ile	Thr	Asn 6960	Leu	Lys	Tyr

Glu	Glu 6965	Asp	Met	His	Cys	Pro 6970	Gly	Ser	Arg	Lys	Phe 6975	Asn	Thr	Thr
Glu	Arg 6980	Val	Leu	Gln	Ser	Leu 6985	His	Gly	Pro	Met	Phe 6990	Lys	Asn	Thr
Ser	Val 6995	Gly	Pro	Leu	Tyr	Ser 7000	Gly	Cys	Arg	Leu	Thr 7005	Leu	Leu	Arg
Ser	Glu 7010	Lys	Asp	Gly	Ala	Ala 7015	Thr	Gly	Val	Asp	Ala 7020	Ile	Cys	Thr
His	Arg 7025	Leu	Asp	Pro	Lys	Ser 7030		Gly	Leu	Asp	Arg 7035	Glu	Xaa	Leu
Tyr	Trp 7040	Glu	Leu	Ser	Xaa	Leu 7045	Thr	Xaa	Xaa	Ile	Xaa 7050	Glu	Leu	Gly
Pro	Tyr 7055	Xaa	Leu	Asp	Arg	Xaa 7060	Ser	Leu	Tyr	Val	Asn 7065	Gly	Phe	Xaa
Xaa	Xaa 7070	Xaa	Xaa	Xaa	Xaa	Xaa 7075		Ser	Thr	Pro	Gly 7080	Thr	Ser	Xaa
Val	Xaa 7085	Leu	Xaa	Thr	Ser	Gly 7090	Thr	Pro	Xaa	Xaa	Xaa 7095	Pro	Xaa	Xaa
Thr	Xaa 7100	Xaa	Xaa	Pro	Leu	Leu 7105	Xaa	Pro	Phe	Thr	Leu 7110	Asn	Phe	Thr
Ile	Thr 7115	Asn	Leu	Xaa	Tyr	Glu 7120	Glu	Xaa	Met	Xaa	Xaa 7125	Pro	Gly	Ser
Arg	Lys 7130	Phe	Asn	Thr	Thr	Glu 7135	Arg	Val	Leu	Gln	Gly 7140	Leu	Leu	Xaa
Pro	Xaa 7145	Phe	Lys	Xaa	Thr	Ser 7150	Val	Gly	Xaa	Leu	Tyr 7155	Ser	Gly	Cys
Arg	Leu 7160		Leu	Leu	Arg	Xaa 7165		Lys	Xaa	Xaa	Ala 7170	Ala	Thr	Xaa
Val	Asp 7175	Xaa	Xaa	Cys	Xaa	Xaa 7180	Xaa	Xaa	Asp	Pro	Xaa 7185	Xaa	Pro	Gly
Leu	Asp 7190	Arg	Glu	Xaa	Leu	Tyr 7195	Trp	Glu	Leu	Ser	Xaa 7200	Leu	Thr	Asn
Ser	Ile 7205	Thr	Glu	Leu	Gly	Pro 7210	Tyr	Thr	Leu	Asp	Arg 7215	Asp	Ser	Leu
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Tyr	Val 7220	Asn	Gly	Phe	Thr	His 7225	Arg	Ser	Ser	Met	7230	Tnr	Thr	Ser
-	7220										7230			

Phe	Thr 7265	Leu	Asn	Phe		Ile 7270	Thr	Asn	Leu	Gln	Tyr 7275	Glu	Glu	Asp
Met	Arg 7280	His	Pro	Gly	Ser	Arg 7285	Lys	Phe	Asn	Thr	Thr 7290	Glu	Arg	Val
Leu	Gln 7295	Gly	Leu	Leu	Lys	Pro 7300	Leu	Phe	Lys	Ser	Thr 7305	Ser	Val	Gly
Pro	Leu 7310	Tyr	Ser	Gly	_	Arg 7315	Leu	Thr	Leu	Leu	Arg 7320	Pro	Glu	Lys
Arg	Gly 7325	Ala	Ala	Thr	Gly	Val 7330	Asp	Thr	Ile	Cys	Thr 7335	His	Arg	Leu
Asp	Pro 7340	Leu	Asn	Pro	Gly	Leu 7345	Asp	Arg	Glu	Xaa	Leu 7350	Tyr	Trp	Glu
Leu	Ser 7355	Xaa	Leu	Thr		Xaa 7360	Ile	Xaa	Glu	Leu	Gly 7365	Pro	Tyr	Xaa
Leu	Asp 7370	Arg	Xaa	Ser	Leu	Tyr 7375	Val	Asn	Gly	Phe	Xaa 7380	Xaa	Xaa	Xaa
Xaa	Xaa 7385	Xaa	Xaa	Thr	Ser	Thr 7390	Pro	Gly	Thr	Ser	Xaa 7395	Val	Xaa	Leu
Xaa	Thr 7400	Ser	Gly	Thr		Xaa 7405	Xaa	Xaa	Pro	Xaa	Xaa 7410	Thr	Xaa	Xaa
Xaa	Pro 7415	Leu	Leu	Xaa	Pro	Phe 7420	Thr	Leu	Asn	Phe	Thr 7425	Ile	Thr	Asn
Leu	Xaa 7430	Tyr	Glu	Glu	Xaa	Met 7435	Xaa	Xaa	Pro	Gly	Ser 7440	Arg	Lys	Phe
Asn	Thr 7445	Thr	Glu	Arg		Leu 7450	Gln	Gly	Leu	Leu	Xaa 7455	Pro	Xaa	Phe
	Xaa 7460					7465					7470			
Leu	Leu 7475	Arg	Xaa	Glu	Lys	Xaa 7480	Xaa	Ala	Ala	Thr	Xaa 7485	Val	Asp	Xaa
Xaa	Cys 7490	Xaa	Xaa	Xaa	Xaa	Asp 7495	Pro	Xaa	Xaa	Pro	Gly 7500	Leu	Asp	Arg
Glu	Xaa 7505	Leu	Tyr	Trp	Glu	Leu 7510	Ser	Xaa	Leu	Thr	Xaa 7515	Xaa	Ile	Xaa
	Leu 7520	-		-		7525	-	-			7530	-		
Gly	Phe 7535					7540					Ser 7545			
Thr	Ser	Thr	Val	His	Leu	Ala	Thr	Ser	Gly	Thr	Pro	Ser	Ser	Leu

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Pro	Gly 7565	His	Thr	Ala	Pro	Val 7570		Leu	Leu	Ile	Pro 7575	Phe	Thr	Leu
Asn	Phe 7580	Thr	Ile	Thr	Asn	Leu 7585	His	Tyr	Glu	Glu	Asn 7590	Met	Gln	His
Pro	Gly 7595	Ser	Arg	Lys	Phe	Asn 7600		Thr	Glu	Arg	Val 7605	Leu	Gln	Gly
Leu	Leu 7610	Gly	Pro	Met	Phe	Lys 7615		Thr	Ser	Val	Gly 7620	Leu	Leu	Tyr
Ser	Gly 7625	Суѕ	Arg	Leu	Thr	Leu 7630	Leu	Arg	Pro	Glu	Lys 7635	Asn	Gly	Ala
Ala	Thr 7640	Gly	Met	Asp		Ile 7645		Ser	His	Arg	Leu 7650	Asp	Pro	Lys
Ser	Pro 7655	Gly	Leu	Asp	Arg	Glu 7660	Xaa	Leu	Tyr	Trp	Glu 7665	Leu	Ser	Xaa
Leu	Thr 7670	Xaa	Xaa	Ile	Xaa	Glu 7675	Leu	Gly	Pro	Tyr	Xaa 7680	Leu	Asp	Arg
Xaa	Ser 7685	Leu	Tyr	Val	Asn	Gly 7690		Xaa	Xaa	Xaa	Xaa 7695	Xaa	Xaa	Xaa
Xaa	Thr 7700	Ser	Thr	Pro	Gly	Thr 7705	Ser	Xaa	Val	Xaa	Leu 7710	Xaa	Thr	Ser
Gly	Thr 7715	Pro	Xaa	Xaa	Xaa	Pro 7720	Xaa	Xaa	Thr	Xaa	Xaa 7725	Xaa	Pro	Leu
Leu	Xaa 7730	Pro	Phe	Thr		Asn 7735	Phe	Thr	Ile	Thr	Asn 7740	Leu	Xaa	Tyr
Glu	Glu 7745	Xaa	Met	Xaa	Xaa	Pro 7750	Gly	Ser	Arg	Lys	Phe 7755	Asn	Thr	Thr
Glu	Arg 7760	Val	Leu	Gln	Gly	Leu 7765	Leu	Xaa	Pro	Xaa	Phe 7770	Lys	Xaa	Thr
Ser	Val 7775	Gly	Xaa	Leu	Tyr	Ser 7780	Gly	Cys	Arg	Leu	Thr 7785	Leu	Leu	Arg
Xaa	Glu 7790	Lys	Xaa	Xaa	Ala	Ala 7795	Thr	Xaa	Val	Asp	Xaa 7800	Xaa	Cys	Xaa
Xaa	Xaa 7805	Xaa	Asp	Pro	Xaa	Xaa 7810	Pro	Gly	Leu	Asp	Arg 7815	Glu	Xaa	Leu
Tyr	Trp 7820	Glu	Leu	Ser	Xaa	Leu 7825	Thr	Xaa	Xaa	Ile	Xaa 7830	Glu	Leu	Gly
Pro	Tyr 7835	Xaa	Leu	Asp	Arg	Xaa 7840	Ser	Leu	Tyr	Val	Asn 7845	Gly	Phe	Thr

His	Gln 7850	Asn	Ser	Val	Pro	Thr 7855	Thr	Ser	Thr	Pro	Gly 7860	Thr	Ser	Thr
Val	Tyr 7865	Trp	Ala	Thr	Thr	Gly 7870	Thr	Pro	Ser	Ser	Phe 7875	Pro	Gly	His
Thr	Glu 7880	Pro	Gly	Pro	Leu	Leu 7885	Ile	Pro	Phe	Thr	Phe 7890	Asn	Phe	Thr
Ile	Thr 7895	Asn	Leu	His	Tyr	Glu 7900	Glu	Asn	Met	Gln	His 7905	Pro	Gly	Ser
Arg	Lys 7910	Phe	Asn	Thr	Thr	Glu 7915	Arg	Val	Leu	Gln	Gly 7920	Leu	Leu	Thr
Pro	Leu 7925	Phe	Lys	Asn	Thr	Ser 7930	Val	Gly	Pro	Leu	Tyr 7935	Ser	Gly	Cys
Arg	Leu 7940	Thr	Leu	Leu	Arg	Pro 7945	Glu	Lys	Gln	Glu	Ala 7950	Ala	Thr	Gly
Val	Asp 7955	Thr	Ile	Cys	Thr	His 7960	Arg	Val	Asp	Pro	Ile 7965	Gly	Pro	Gly
Leu	Asp 7970	Arg	Glu	Xaa	Leu	Tyr 7975	Trp	Glu	Leu	Ser	Xaa 7980	Leu	Thr	Xaa
Xaa	Ile 7985	Xaa	Glu	Leu	Gly	Pro 7990	Tyr	Xaa	Leu	Asp	Arg 7995	Xaa	Ser	Leu
Tyr	Val 8000	Asn	Gly	Phe	Xaa	Xaa 8005		Xaa	Xaa	Xaa	Xaa 8010	Xaa	Thr	Ser
Thr	Pro 8015	Gly	Thr	Ser	Xaa	Val 8020	Xaa	Leu	Xaa	Thr	Ser 8025	Gly	Thr	Pro
Xaa	Xaa 8030	Xaa	Pro	Xaa	Xaa	Thr 8035	Xaa	Xaa	Xaa	Pro	Leu 8040	Leu	Xaa	Pro
Phe	Thr 8045	Leu	Asn	Phe	Thr	Ile 8050	Thr	Asn	Leu	Xaa	Tyr 8055	Glu	Glu	Xaa
Met	Xaa 8060	Xaa	Pro	Gly	Ser	Arg 8065	Lys	Phe	Asn	Thr	Thr 8070	Glu	Arg	Val
Leu	Gln 8075	Gly	Leu	Leu	Xaa	Pro 8080	Xaa	Phe	Lys	Xaa	Thr 8085	Ser	Val	Gly
Xaa	Leu 8090	Tyr	Ser	Gly	Cys	Arg 8095	Leu	Thr	Leu	Leu	Arg 8100	Xaa	Glu	Lys
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Xaa	Xaa 8105	Ala	Ala	Thr	хаа	8110	11010	1144		-1-	8115		21.44	
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Ser	Val 8165	Pro	Thr	Thr	Ser	Ser 8170	Pro	Gly	Thr	Ser	Thr 8175	Val	His	Leu
Ala	Thr 8180	Ser	Gly	Thr	Pro	Ser 8185	Ser	Leu	Pro	Gly	His 8190	Thr	Ala	Pro
Val	Pro 8195	Leu	Leu	Ile		Phe 8200	Thr	Leu	Asn	Phe	Thr 8205	Ile	Thr	Asn
Leu	His 8210	Tyr	Glu	Glu	Asn	Met 8215	Gln	His	Pro	Gly	Ser 8220	Arg	Lys	Phe
Asn	Thr 8225	Thr	Glu	Arg	Val	Leu 8230	Gln	Gly	Leu	Leu	Lys 8235	Pro	Leu	Phe
Lys	Ser 8240	Thr	Ser	Val		Pro 8245	Leu	Tyr	Ser	Gly	Cys 8250	Arg	Leu	Thr
Leu	Leu 8255	Arg	Pro	Glu	Lys	His 8260	Gly	Ala	Ala	Thr	Gly 8265	Val	Asp	Ala
Ile	Cys 8270	Thr	Leu	Arg	Leu	Asp 8275	Pro	Thr	Gly	Pro	Gly 8280	Leu	Asp	Arg
Glu	Xaa 8285	Leu	Tyr	_		Leu 8290	Ser	Xaa	Leu	Thr	Xaa 8295	Xaa	Ile	Xaa
Glu	Leu 8300	Gly	Pro	Tyr	Xaa	Leu 8305	Asp	Arg	Xaa	Ser	Leu 8310	Tyr	Val	Asn
Gly	Phe 8315	Xaa	Xaa	Xaa	Xaa	Xaa 8320	Xaa	Xaa	Xaa	Thr	Ser 8325	Thr	Pro	Gly
Thr	Ser 8330	Xaa	Val	Xaa		Xaa 8335	Thr	Ser	Gly	Thr	Pro 8340	Xaa	Xaa	Xaa
Pro	Xaa 8345	Xaa	Thr	Xaa	Xaa	Xaa 8350	Pro	Leu	Leu	Xaa	Pro 8355	Phe	Thr	Leu
Asn	Phe 8360	Thr	Ile	Thr	Asn	Leu 8365	Xaa	Tyr	Glu	Glu	Xaa 8370	Met	Xaa	Xaa
Pro	Gly 8375	Ser	Arg	Lys	Phe	Asn 8380	Thr	Thr	Glu	Arg	Val 8385	Leu	Gln	Gly
Leu	Leu 8390	Xaa	Pro	Xaa	Phe	Lys 8395	Xaa	Thr	Ser	Val	Gly 8400	Xaa	Leu	Tyr
Ser	Gly 8405	Cys	Arg	Leu	Thr	Leu 8410	Leu	Arg	Xaa	Glu	Lys 8415	Xaa	Xaa	Ala
Ala	Thr 8420	Xaa	Val	Asp	Xaa	Xaa 8425	Cys	Xaa	Xaa	Xaa	Xaa 8430	Asp	Pro	Xaa
Xaa	Pro	Gly	Leu	Asp	Arg	Glu	Xaa	Leu	Tyr	Trp	Glu	Leu	Ser	Xaa

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Xaa	Ser 8465	Leu	Tyr	Val	Asn	Gly 8470	Phe	Thr	His	Arg	Thr 8475	Ser	Val	Pro
Thr	Thr 8480	Ser	Thr	Pro	Gly	Thr 8485	Ser	Thr	Val	His	Leu 8490	Ala	Thr	Ser
Gly	Thr 8495	Pro	Ser	Ser	Leu	Pro 8500	Gly	His	Thr	Ala	Pro 8505	Val	Pro	Leu
Leu	Ile 8510	Pro	Phe	Thr	Leu	Asn 8515	Phe	Thr	Ile	Thr	Asn 8520	Leu	Gln	Tyr
Glu	Glu 8525	Asp	Met	His	_	Pro 8530	_	Ser	Arg	Lys	Phe 8535	Asn	Thr	Thr
Glu	Arg 8540	Val	Leu	Gln	Gly	Leu 8545	Leu	Ser	Pro	Ile	Phe 8550	Lys	Asn	Ser
Ser	Val 8555	Gly	Pro	Leu	Tyr	Ser 8560	Gly	Cys	Arg	Leu	Thr 8565	Ser	Leu	Arg
Pro	Glu 8570	Lys	Asp	Gly	Ala	Ala 8575	Thr	Gly	Met	Asp	Ala 8580	Val	Cys	Leu
Tyr	His 8585	Pro	Asn	Pro	Lys	Arg 8590	Pro	Gly	Leu	Asp	Arg 8595	Glu	Gln	Leu
Tyr	Cys 8600	Glu	Leu	Ser	Gln	Leu 8605	Thr	His	Asn	Ile	Thr 8610	Glu	Leu	Gly
Pro	Tyr 8615	Ser	Leu	Asp	Arg	Asp 8620		Leu	Tyr	Val	Asn 8625	Gly	Phe	Thr
His	Gln 8630	Asn	Ser	Val	Pro	Thr 8635	Thr	Ser	Thr	Pro	Gly 8640	Thr	Ser	Thr
Val	Tyr 8645	Trp	Ala	Thr	Thr	Gly 8650	Thr	Pro	Ser	Ser	Phe 8655	Pro	Gly	His
Thr	Xaa 8660	Xaa	Xaa	Pro	Leu	Leu 8665	Xaa	Pro	Phe	Thr	Leu 8670	Asn	Phe	Thr
Ile	Thr 8675	Asn	Leu	Xaa	Tyr	Glu 8680	Glu	Xaa	Met	Xaa	Xaa 8685	Pro	Gly	Ser
Arg	Lys 8690	Phe	Asn	Thr	Thr	Glu 8695	Arg	Val	Leu	Gln	Gly 8700	Leu	Leu	Xaa
Pro	Xaa 8705	Phe	Lys	Xaa	Thr	Ser 8710	Val	Gly	Xaa	Leu	Tyr 8715	Ser	Gly	Cys
Arg	Leu 8720	Thr	Leu	Leu	Arg	Xaa 8725	Glu	Lys	Xaa	Xaa	Ala 8730	Ala	Thr	Xaa

Val	Asp 8735	Xaa	Xaa	Cys	Xaa	Xaa 8740	Xaa	Xaa	Asp	Pro	Xaa 8745	Xaa	Pro	Gly
Leu	Asp 8750	Arg	Glu	Xaa	Leu	Tyr 8755	Trp	Glu	Leu	Ser	Xaa 8760	Leu	Thr	Xaa
Xaa	Ile 8765	Xaa	Glu	Leu	Gly	Pro 8770	Tyr	Xaa	Leu	Asp	Arg 8775	Xaa	Ser	Leu
Tyr	Val 8780	Asn	Gly	Phe	Thr	His 8785	Trp	Ser	Ser	Gly	Leu 8790	Thr	Thr	Ser
Thr	Pro 8795	Trp	Thr	Ser	Thr	Val 8800	Asp	Leu	Gly	Thr	Ser 8805	Gly	Thr	Pro
Ser	Pro 8810	Val	Pro	Ser	Pro	Thr 8815	Thr	Ala	Gly	Pro	Leu 8820	Leu	Val	Pro
Phe	Thr 8825	Leu	Asn	Phe	Thr	Ile 8830	Thr	Asn	Leu	Gln	Tyr 8835	Glu	Glu	Asp
Met	His 8840	Arg	Pro	Gly	Ser	Arg 8845	Lys	Phe	Asn	Ala	Thr 8850	Glu	Arg	Val
Leu	Gln 8855	Gly	Leu	Leu	Ser	Pro 8860	Ile	Phe	Lys	Asn	Thr 8865	Ser	Val	Gly
Pro	Leu 8870	Tyr	Ser	Gly	Cys	Arg 8875	Leu	Thr	Leu	Leu	Arg 8880	Pro	Glu	Lys
Gln	Glu 8885	Ala	Ala	Thr	Gly	Val 8890	Asp	Thr	Ile	Cys	Thr 8895	His	Arg	Val
Asp	Pro 8900	Ile	Gly	Pro	Gly	Leu 8905	Asp	Arg	Glu	Xaa	Leu 8910	Tyr	Trp	Glu
Leu	Ser 8915	Xaa	Leu	Thr	Xaa	Xaa 8920	Ile	Xaa	Glu	Leu	Gly 8925	Pro	Tyr	Xaa
Leu	Asp 8930	Arg	Xaa	Ser	Leu	Tyr 8935	Val	Asn	Gly	Phe	Xaa 8940	Xaa	Xaa	Xaa
Xaa	Xaa 8945	Xaa	Xaa	Thr	Ser	Thr 8950	Pro	Gly	Thr	Ser	Xaa 8955	Val	Xaa	Leu
Xaa	Thr 8960	Ser	Gly	Thr	Pro	Xaa 8965	Xaa	Xaa	Pro	Xaa	Xaa 8970	Thr	Xaa	Xaa
Xaa	Pro 8975	Leu	Leu	Xaa	Pro	Phe 8980	Thr	Leu	Asn	Phe	Thr 8985	Ile	Thr	Asn
Leu	Xaa 8990	Tyr	Glu	Glu	Xaa	Met 8995	Xaa	Xaa	Pro	Gly	Ser 9000	Arg	Lys	Phe
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Lys	Xaa 9020	Thr	Ser	Val	Gly	Xaa 9025	Leu	Tyr	Ser	Gly	Cys 9030	Arg	Leu	Thr

Leu	Leu 9035	Arg	Xaa	Glu	Lys	Xaa 9040	Xaa	Ala	Ala	Thr	Xaa 9045	Val	Asp	Xaa
Xaa	Cys 9050	Xaa	Xaa	Xaa	Xaa	Asp 9055	Pro	Xaa	Xaa	Pro	Gly 9060	Leu	Asp	Arg
Glu	Xaa 9065	Leu	Tyr	Trp	Glu	Leu 9070	Ser	Xaa	Leu	Thr	Xaa 9075	Xaa	Ile	Xaa
Glu	Leu 9080	Gly	Pro	Tyr	Xaa	Leu 9085	Asp	Arg	Xaa	Ser	Leu 9090	Tyr	Val	Asn
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Thr	Ser 9110	Thr	Val	Asp	Leu	Gly 9115	Thr	Ser	Gly	Thr	Pro 9120	Ser	Pro	Val
Pro	Ser 9125	Pro	Thr	Thr	Ala	Gly 9130	Pro	Leu	Leu	Val	Pro 9135	Phe	Thr	Leu
Asn	Phe 9140	Thr	Ile	Thr	Asn	Leu 9145	Gln	Tyr	Glu	Glu	Asp 9150	Met	His	Arg
Pro	Gly 9155	Ser	Arg	Lys	Phe	Asn 9160	Thr	Thr	Glu	Arg	Val 9165	Leu	Gln	Gly
Leu	Leu 9170	Thr	Pro	Leu	Phe	Arg 9175	Asn	Thr	Ser	Val	Ser 9180	Ser	Leu	Tyr
Ser	Gly 9185	Cys	Arg	Leu	Thr	Leu 9190	Leu	Arg	Pro	Glu	Lys 9195	Asp	Gly	Ala
Ala	Thr 9200	Arg	Val	Asp	Ala	Val 9205	Cys	Thr	His	Arg	Pro 9210	Asp	Pro	Lys
Ser	Pro 9215	Gly	Leu	Asp	Arg	Glu 9220	Xaa	Leu	Tyr	Trp	Glu 9225	Leu	Ser	Xaa
Leu	Thr 9230	Xaa	Xaa	Ile	Xaa	Glu 9235	Leu	Gly	Pro	Tyr	Xaa 9240	Leu	Asp	Arg
Xaa	Ser 9245	Leu	Tyr	Val	Asn	Gly 9250	Phe	Xaa	Xaa	Xaa	Xaa 9255	Xaa	Xaa	Xaa
Xaa	Thr 9260	Ser	Thr	Pro	Gly	Thr 9265	Ser	Xaa	Val	Xaa	Leu 9270	Xaa	Thr	Ser
Gly	Thr 9275	Pro	Xaa	Xaa	Xaa	Pro 9280	Xaa	Xaa	Thr	Xaa	Xaa 9285	Xaa	Pro	Leu
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Xaa	Glu 9350	Lys	Xaa	Xaa	Ala	Ala 9355	Thr	Xaa	Val	Asp	Xaa 9360	Xaa	Суз	Xaa
Xaa	Xaa 9365	Xaa	Asp	Pro	Xaa	Xaa 9370	Pro	Gly	Leu	Asp	Arg 9375	Glu	Xaa	Leu
Tyr	Trp 9380	Glu	Leu	Ser	Xaa	Leu 9385	Thr	Xaa	Xaa	Ile	Xaa 9390	Glu	Leu	Gly
Pro	Tyr 9395	Xaa	Leu	Asp	Arg	Xaa 9400	Ser	Leu	Tyr	Val	Asn 9405	Gly	Phe	Thr
His	Trp 9410	Ile	Pro	Val	Pro	Thr 9415	Ser	Ser	Thr	Pro	Gly 9420	Thr	Ser	Thr
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Thr	Ala 9440	Gly	Pro	Leu	Leu	Val 9445	Pro	Phe	Thr	Leu	Asn 9450	Phe	Thr	Ile
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Lys	Phe 9470	Asn	Thr	Thr	Glu	Arg 9475	Val	Leu	Gln	Gly	Leu 9480	Leu	Gly	Pro
Ile	Phe 9485	Lys	Asn	Thr	Ser	Val 9490	Gly	Pro	Leu	Tyr	Ser 9 4 95	Gly	Cys	Arg
Leu	Thr 9500	Ser	Leu	Arg	Ser	Glu 9505	Lys	Asp	Gly	Ala	Ala 9510	Thr	Gly	Val
Asp	Ala 9515	Ile	Cys	Ile	His	His 9520	Leu	Asp	Pro	Lys	Ser 9525	Pro	Gly	Leu
Asp	Arg 9530	Glu	Xaa	Leu	Tyr	Trp 9535	Glu	Leu	Ser	Xaa	Leu 9540	Thr	Xaa	Xaa
Ile	Xaa 9545	Glu	Leu	Gly	Pro	Tyr 9550	Xaa	Leu	Asp	Arg	Xaa 9555	Ser	Leu	Tyr
Val	Asn 9560	Gly	Phe	Xaa	Xaa	Xaa 9565	Xaa	Xaa	Xaa	Xaa	Xaa 9570	Thr	Ser	Thr
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Leu	Tyr 9650	Ser	Gly	Cys	Arg	Leu 9655	Thr	Leu	Leu	Arg	Xaa 9660	Glu	Lys	Xaa
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Ala	Pro 9725	Asn	Thr	Ser	Thr	Pro 9730		Thr	Ser	Thr	Val 9735		Leu	Gly
Thr	Ser 9740	Gly	Thr	Pro	Ser	Ser 9745	Leu	Pro	Ser	Pro	Thr 9750	Ser	Ala	Gly
Pro	Leu 9755	Leu	Val	Pro	Phe	Thr 9760	Leu	Asn	Phe	Thr	Ile 9765	Thr	Asn	Leu
Gln	Tyr 9770	Glu	Glu	Asp	Met	His 9775	His	Pro	Gly	Ser	Arg 9780	-	Phe	Asn
Thr	Thr 9785	Glu	Arg	Val	Leu	Gln 9790	Gly	Leu	Leu	Gly	Pro 9795	Met	Phe	Lys
Asn	Thr 9800	Ser	Val	Gly	Leu	Leu 9805	Tyr	Ser	Gly	Cys	Arg 9810	Leu	Thr	Leu
Leu	Arg 9815	Pro	Glu	Lys	Asn	Gly 9820	Ala	Ala	Thr	Arg	Val 9825	Asp	Ala	Val
Cys	Thr 9830	His	Arg	Pro	Asp	Pro 9835	Lys	Ser	Pro	Gly	Leu 9840	Asp	Arg	Glu
Xaa	Leu 9845	Tyr	Trp	Glu	Leu	Ser 9850	Xaa	Leu	Thr	Xaa	Xaa 9855	Ile	Xaa	Glu
Leu	Gly 9860	Pro	Tyr	Xaa	Leu	Asp 9865	Arg	Xaa	Ser	Leu	Tyr 9870	Val	Asn	Gly
Phe	Xaa 9875	Xaa	Xaa	Xaa	Xaa	Xaa 9880	Xaa	Xaa	Thr	Ser	Thr 9885	Pro	Gly	Thr
Ser	Xaa 9890	Val	Xaa	Leu	Xaa	Thr 9895	Ser	Gly	Thr	Pro	Xaa 9900	Xaa	Xaa	Pro
Xaa	Xaa 9905	Thr	Ala	Pro	Val	Pro 9910	Leu	Leu	Ile	Pro	Phe 9915	Thr	Leu	Asn

- Phe Thr Ile Thr Asn Leu His Tyr Glu Glu Asn Met Gln His Pro 9920 9930
- Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu 9935 9940 9945
- Leu Arg Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser 9950 9960
- Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys His Gly Ala Ala 9965 9970 9975
- Thr Gly Val Asp Ala Ile Cys Thr Leu Arg Leu Asp Pro Thr Gly 9980 9985 9990
- Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu 9995 10000 10005
- Thr Asn Ser Val Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp 10010 10015 10020
- Ser Leu Tyr Val Asn Gly Phe Thr Gln Arg Ser Ser Val Pro Thr 10025 10030 10035
- Thr Ser Ile Pro Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly 10040 10045 10050
- Thr Pro Ala Ser Leu Pro Gly His Thr Ala Pro Gly Pro Leu Leu 10055 10060 10065
- Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu 10070 10080
- Val Asp Met Arg His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu 10085 10090 10095
- Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser 10100 10105 10110
- Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro 10115 10120 10125
- Glu Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His 10130 10135 10140
- Arg Leu Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr 10145 10150 10155
- Trp Glu Leu Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro 10160 10165 10170
- Tyr Leu Leu Asp Arg Gly Ser Leu Tyr Val Asn Gly Phe Thr His 10175 10180 10185
- Arg Asn Phe Val Pro Ile Thr Ser Thr Pro Gly Thr Ser Thr Val 10190 10195 10200
- His Leu Gly Thr Ser Glu Thr Pro Ser Ser Leu Pro Arg Pro Ile

	10205					10210					10215			
Val	Pro 10220	Gly	Pro	Leu	Leu	Val 10225		Phe	Thr	Leu	Asn 10230	Phe	Thr	Ile
Thr	Asn 10235	Leu	Gln	Tyr		Glu 10240	Ala	Met	Arg		Pro 10245	Gly	Ser	Arg
Lys	Phe 10250		Thr			Arg 10255					Leu 10260	Leu	Arg	Pro
Leu	Phe 10265	Lys	Asn	Thr	Ser	Ile 10270		Pro	Leu		Ser 10275		Cys	Arg
Leu	Thr 10280	Leu	Leu	Arg		Glu 10285	Lys	Asp	Lys		Ala 10290	Thr	Arg	Val
Asp	Ala 10295		Cys			His 10300						Pro	Gly	Leu
Asn	Arg 10310	Glu	Gln	Leu		Trp 10315		Leu	Ser	Gln	Leu 10320	Thr	His	Gly
Ile	Thr 10325	Glu	Leu	Gly		Tyr 10330		Leu	Asp		Asp 10335	Ser	Leu	Tyr
Val	Asp 10340	Gly	Phe			Trp 10345						Thr	Ser	Thr
Pro	Gly 10355	Thr	Ser	Ile		Asn 10360		Gly	Thr	Ser	Gly 10365	Ile	Pro	Pro
Ser	Leu 10370	Pro	Glu	Thr	Thr	Xaa 10375		Xaa	Pro		Leu 10380	Xaa	Pro	Phe
Thr	Leu 10385		Phe			Thr 10390					Glu 10395	Glu	Xaa	Met
Xaa	Xaa 10400	Pro	Gly	Ser		Lys 10405	Phe	Asn	Thr	Thr	Glu 10410	Arg	Val	Leu
Gln	Gly 10415	Leu	Leu	Lys	Pro	Leu 10420	Phe	Lys	Ser	Thr	Ser 10425	Val	Gly	Pro
Leu	Tyr 10430	Ser	Gly	Cys	Arg	Leu 10435		Leu	Leu	Arg	Pro 10440	Glu	Lys	Asp
Gly	Val 10445	Ala	Thr	Arg	Val	Asp 10450	Ala	Ile	Cys	Thr	His 10455	Arg	Pro	Asp
Pro	Lys 10460	Ile	Pro	Gly	Leu	Asp 10465	Arg	Gln	Gln	Leu	Tyr 10470	Trp	Glu	Leu
Ser	Gln 10475	Leu	Thr	His	Ser	Ile 10480		Glu	Leu	Gly	Pro 10485	Tyr	Thr	Leu
Asp	Arg 10490	Asp	Ser	Leu	Tyr	Val 10495	Asn	Gly	Phe	Thr	Gln 10500	Arg	Ser	Ser

Val	Pro 10505	Thr		Ser		Pro 10510					Val 10515	Gln	Pro	Glu
Thr	Ser 10520	Glu	Thr	Pro		Ser 10525		Pro	Gly	Pro	Thr 10530	Ala	Thr	Gly
Pro	Val 10535	Leu	Leu	Pro	Phe	Thr 10540		Asn	Phe	Thr	Ile 10545	Thr	Asn	Leu
Gln	Tyr 10550	Glu	Glu	-		His 10555					Arg 10560	Lys	Phe	Asn
Thr	Thr 10565		Arg			Gln 10570		Leu	Leu		Pro 10575	Leu	Phe	Lys
Asn	Thr 10580		Val	Ser	Ser	Leu 10585		Ser	Gly		Arg 10590	Leu	Thr	Leu
Leu	Arg 10595	Pro	Glu			Gly 10600		Ala			Val 10605	Asp	Ala	Val
Cys	Thr 10610		Arg	Pro	Asp	Pro 10615	Lys	Ser	Pro		Leu 10620	Asp	Arg	Glu
Arg	Leu 10625		Trp	Lys	Leu	Ser 10630		Leu	Thr	His	Gly 10635	Ile	Thr	Glu
Leu	Gly 10640	Pro	Tyr			Asp 10645		His			Tyr 10650	Val	Asn	Gly
Phe	Thr 10655	His	Gln			Met 10660	Thr	Thr	Thr		Thr 10665	Pro	Asp	Thr
Ser	Thr 10670	Met	His	Leu	Ala	Thr 10675		Arg	Thr	Pro	Ala 10680	Ser	Leu	Ser
Gly	Pro			7.1 -	~									7.cn
	10685		Thr			10690					Phe 10695	Thr	Ile	ASII
Phe	10685 Thr 10700				Leu	10690	Tyr	Glu	Glu	Asn	10695			
	Thr	Ile Arg	Thr	Asn	Leu	10690 Arg 10705	Tyr	Glu	Glu	Asn	10695 Met 10710	His	His	Pro
Gly	Thr 10700 Ser	Ile Arg	Thr	Asn Phe	Leu Asn	10690 Arg 10705 Thr 10720	Tyr Thr	Glu Glu	Glu Arg	Asn Val	10695 Met 10710 Leu 10725	His Gln	His Gly	Pro Leu
Gly Leu	Thr 10700 Ser 10715	Ile Arg Pro	Thr Lys Val	Asn Phe	Leu Asn Lys	10690 Arg 10705 Thr 10720 Asn 10735	Tyr Thr	Glu Glu Ser	Glu Arg Val	Asn Val Gly	10695 Met 10710 Leu 10725 Pro 10740	His Gln Leu	His Gly Tyr	Pro Leu Ser
Gly Leu Gly	Thr 10700 Ser 10715 Arg 10730	Ile Arg Pro Arg	Thr Lys Val	Asn Phe Phe	Leu Asn Lys Leu	10690 Arg 10705 Thr 10720 Asn 10735 Leu 10750	Tyr Thr Thr	Glu Glu Ser Pro	Glu Arg Val Lys	Asn Val Gly Lys	10695 Met 10710 Leu 10725 Pro 10740 Asp 10755	His Gln Leu Gly	His Gly Tyr Ala	Pro Leu Ser
Gly Leu Gly Thr	Thr 10700 Ser 10715 Arg 10730 Cys 10745	Ile Arg Pro Arg Val	Thr Lys Val Leu Asp	Asn Phe Phe Thr	Leu Asn Lys Leu	10690 Arg 10705 Thr 10720 Asn 10735 Leu 10750 Cys 10765	Tyr Thr Thr Arg Thr	Glu Glu Ser Pro	Glu Arg Val Lys	Asn Val Gly Lys	10695 Met 10710 Leu 10725 Pro 10740 Asp 10755 Asp	His Gln Leu Gly	His Gly Tyr Ala Lys	Pro Leu Ser Ala

Ser	Leu 10805		Asn	Val	Gly	Phe 10810	Thr	Gln	Arg	Ser	Ser 10815	Val	Pro	Thr
Thr	Ser 10820	Val	Pro	Gly	Thr	Pro 10825		Val	Asp	Leu	Gly 10830	Thr	Ser	Gly
Thr	Pro 10835	Val	Ser	Lys	Pro	Gly 10840	Pro	Ser			Ser 10845	Pro	Leu	Leu
Val	Leu 10850	Phe	Thr	Leu	Asn	Gly 10855		Ile	Thr		Leu 10860	Arg	Tyr	Glu
Glu	Asn 10865		Gln	His	Pro	Gly 10870		Arg	Lys	Phe	Asn 10875	Thr	Thr	Glu
Arg	Val 10880	Leu	Gln	Gly	Leu	Leu 10885		Ser	Leu		Lys 10890	Ser	Thr	Ser
Val	Gly 10895		Leu	Tyr		Gly 10900		Arg	Leu		Leu 10905	Leu	Arg	Pro
Glu	Lys 10910		Gly	Thr	Ala	Thr 10915		Val	Asp	Ala	Ile 10920		Thr	His
His	Pro 10925	Asp	Pro	Lys	Ser	Pro 10930	Arg	Leu	Asp	Arg	Glu 10935	Gln	Leu	Tyr
Trp	Glu 10940	Leu	Ser	Gln		Thr 10945		Asn			Glu 10950	Leu	Gly	His
Tyr	Ala 10955		Asp	Asn	Asp	Ser 10960		Phe	Val	Asn	Gly 10965	Phe	Thr	His
Arg	Ser 10970	Ser	Val	Ser		Thr 10975		Thr			Thr 10980	Pro	Thr	Val
Tyr	Leu 10985		Ala	Ser		Thr 10990		Ala	Ser		Phe 10995	Gly	Pro	Ser
Ala	Ala 11000		His	Leu		Ile 11005		Phe			Asn 11010	Phe	Thr	Ile
Thr	Asn 11015	Leu	Arg	Tyr	Glu	Glu 11020		Met	Trp	Pro	Gly 11025		Arg	Lys
Phe	Asn 11030	Thr	Thr	Glu	Arg	Val 11035	Leu	Gln	Gly	Leu	Leu 11040	Arg	Pro	Leu
Phe	Lys 11045		Thr	Ser	Val	Gly 11050		Leu	Tyr	Ser	Gly 11055	Ser	Arg	Leu
Thr	Leu 11060	Leu	Arg	Pro	Glu	Lys 11065		Gly	Glu	Ala	Thr 11070	Gly	Val	Asp
Ala	Ile 11075	_	Thr	His	Arg	Pro 11080	Asp	Pro	Thr	Gly	Pro 11085	Gly	Leu	Asp
Arg	Glu	Gln	Leu	Tyr	Leu	Glu	Leu	Ser	Gln	Leu	Thr	His	Ser	Ile

	11090					11095					11100			
Thr	Glu 11105	Leu	Gly	Pro		Thr 11110		Asp	Arg	Asp	Ser 11115	Leu	Tyr	Val
Asn	Gly 11120	Phe	Thr	His		Ser 11125	Ser	Val	Pro	Thr	Thr 11130	Ser	Thr	Gly
Val	Val 11135	Ser	Glu			Phe 11140						Ile	Asn	Asn
Leu	Arg 11150	Tyr	Met	Ala		Met 11155	Gly	Gln	Pro	Gly	Ser 11160	Leu	Lys	Phe
Asn	Ile 11165	Thr	Asp	Asn	Val	Met 11170		His	Leu		Ser 11175	Pro	Leu	Phe
Gln	Arg 11180	Ser	Ser			Ala 11185		Tyr	Thr	Gly	Cys 11190	Arg	Val	Ile
Ala	Leu 11195	Arg	Ser	Val	Lys	Asn 11200	Gly	Ala	Glu	Thr	Arg 11205	Val	Asp	Leu
Leu	Cys 11210	Thr	Tyr	Leu	Gln	Pro 11215	Leu	Ser	Gly	Pro	Gly 11220	Leu	Pro	Ile
Lys	Gln 11225		Phe			Leu 11230					His 11235	Gly	Ile	Thr
Arg	Leu 11240	Gly	Pro	Tyr	Ser	Leu 11245	Asp	Lys	Asp	Ser	Leu 11250	Tyr	Leu	Asn
Gly	Tyr 11255	Asn	Glu	Pro	Gly	Leu 11260		Glu	Pro	Pro	Thr 11265	Thr	Pro	Lys
Pro	Ala 11270		Thr			Pro 11275					Ala 11280	Thr	Thr	Ala
Met	Gly 11285	Tyr	His	Leu		Thr 11290	Leu	Thr	Leu	Asn	Phe 11295	Thr	Ile	Ser
Asn	Leu 11300	Gln	Tyr	Ser	Pro	Asp 11305	Met	Gly	Lys	Gly	Ser 11310	Ala	Thr	Phe
Asn	Ser 11315	Thr	Glu	Gly	Val	Leu 11320		His	Leu	Leu	Arg 11325	Pro	Leu	Phe
Gln	Lys 11330	Ser	Ser	Met	Gly	Pro 11335	Phe	Tyr	Leu	Gly	Cys 11340	Gln	Leu	Ile
Ser	Leu 11345	Arg	Pro	Glu	Lys	Asp 11350	Gly	Ala	Ala	Thr	Gly 11355	Val	Asp	Thr
Thr	Cys 11360	Thr	Tyr	His	Pro	Asp 11365		Val	Gly	Pro	Gly 11370	Leu	Asp	Ile
Gln	Gln 11375	Leu	Tyr	Trp	Glu	Leu 11380	Ser	Gln	Leu	Thr	His 11385	Gly	Val	Thr

Gln	Leu 11390	_	Phe	Tyr	Val	Leu 11395	Asp	Arg	Asp		Leu 11400	Phe	Ile	Asn
Gly	Tyr 11405	Ala	Pro			Leu 11410		Ile		Gly	Glu 11415	Tyr	Gln	Ile
Asn	Phe 11420	His	Ile	Val	Asn	Trp 11425		Leu	Ser	Asn	Pro 11430	Asp	Pro	Thr
Ser	Ser 11435		Tyr	Ile	Thr	Leu 11440	Leu	Arg	Asp	Ile	Gln 11445	Asp	Lys	Val
Thr	Thr 11450	Leu	Tyr	Lys	Gly	Ser 11455	Gln	Leu	His		Thr 11460	Phe	Arg	Phe
Cys	Leu 11465	Val	Thr	Asn		Thr 11470		Asp	Ser		Leu 11475	Val	Thr	Val
Lys	Ala 11480					Asn 11485					Leu 11490	Val	Glu	Gln
Val	Phe 11495	Leu	Asp	Lys	Thr	Leu 11500		Ala	Ser	Phe	His 11505		Leu	Gly
Ser	Thr 11510	Tyr	Gln	Leu		Asp 11515		His	Val	Thr	Glu 11520	Met	Glu	Ser
Ser	Val 11525	_	Gln			Ser 11530					Gln 11535	His	Phe	Tyr
Leu	Asn 11540	Phe	Thr	Ile	Thr	Asn 11545	Leu	Pro	Tyr		Gln 11550	Asp	Lys	Ala
Gln	Pro 11555	Gly	Thr	Thr	Asn	Tyr 11560		Arg	Asn		Arg 11565	Asn	Ile	Glu
	Ala 11570		Asn			Phe 11575					Ile 11580		Ser	Tyr
Phe		_	Cys			Ser 11590		Phe			Val 11595		Asn	Arg
His	His 11600		Gly	Val	Asp	Ser 11605		Cys	Asn	Phe	Ser 11610	Pro	Leu	Ala
Arg	Arg 11615	Val	Asp	Arg	Val	Ala 11620		Tyr	Glu	Glu	Phe 11625	Leu	Arg	Met
Thr	Arg 11630	Asn	Gly	Thr	Gln	Leu 11635		Asn	Phe	Thr	Leu 11640	Asp	Arg	Ser
Ser	Val 11645		Val	Asp	Gly	Tyr 11650		Pro	Asn	Arg	Asn 11655	Glu	Pro	Leu
Thr	Gly 11660		Ser	Asp	Leu	Pro 11665		Trp	Ala	Val	Ile 11670	Leu	Ile	Gly
Leu	Ala 11675	_	Leu	Leu	Gly	Leu 11680		Thr	Cys	Leu	Ile 11685	Cys	Gly	Val

Leu Val Thr Thr Arg Arg Arg Lys Lys Glu Gly Glu Tyr Asn Val 11690 11695 11700

Gln Gln Cys Pro Gly Tyr Tyr Gln Ser His Leu Asp Leu Glu 11705 11710 11715

Asp Leu Gln 11720

<210> 163

<211> 156

<212> PRT

<213> Homo sapiens

<400> 163

Thr Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr 1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met His Arg Pro Gly Ser Arg Lys Phe $20 \hspace{1cm} 25 \hspace{1cm} 30$

Asn Ala Thr Glu Arg Val Leu Gln Gly Leu Leu Ser Pro Ile Phe Lys 35 40 45

Asn Ser Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu 50 55 60

Arg Pro Glu Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu 70 75 80

Tyr His Pro Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr 85 90 95

Trp Glu Leu Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr
100 105 110

Ser Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Gln Asn 115 120 125

Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Tyr Trp Ala 130 135 140

Thr Thr Gly Thr Pro Ser Ser Phe Pro Gly His Thr 145 150 155

<210> 164

<211> 42

<212> PRT

<213> Homo sapiens

<400> 164

Ala Thr Val Pro Phe Met Val Pro Phe Thr Leu Asn Phe Thr Ile Thr 1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg Lys Phe 20 25 30

Asn Ala Thr Glu Arg Glu Leu Gln Gly Leu
35 40

<210> 165

<211> 42

<212> PRT

<213> Homo sapiens

<400> 165

Thr Ala Val Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr 1 5 10 15

Asn Leu Gln Tyr Gly Glu Asp Met Arg His Pro Gly Ser Arg Lys Phe 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu 35

<210> 166

<211> 42

<212> PRT

<213> Homo sapiens

<400> 166

Val Pro Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr 1 5 10 15

Asn Leu Gln Tyr Glu Glu Ala Met Arg His Pro Gly Ser Arg Lys Phe 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu 35

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<211> 42
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<212> PRT

<213> Homo sapiens

<400> 167

Ala Pro Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr 1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg Lys Phe 20 25 30

Ser Thr Thr Glu Arg Val Leu Gln Gly Leu 35

<210> 168

<211> 42

<212> PRT

<213> Homo sapiens

<400> 168

Ala Pro Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr 1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg Lys Phe 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu 35 40

<210> 169

<211> 42

<212> PRT

<213> Homo sapiens

<400> 169

Ala Pro Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr 1 10 15

Asn Leu Gln Tyr Glu Val Asp Met Arg His Pro Gly Ser Arg Lys Phe 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu

35 40

<210> 170

<211> 42

<212> PRT

<213> Homo sapiens

<400> 170

Ser Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr 1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg Lys Phe 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu 35 40

<210> 171

<211> 42

<212> PRT

<213> Homo sapiens

<400> 171

Ala Ala Gly Pro Leu Leu Met Pro Phe Thr Leu Asn Phe Thr Ile Thr 1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr Gly Ser Arg Lys Phe 20 25 30

Asn Thr Met Glu Ser Val Leu Gln Gly Leu 35 40

<210> 172

<211> 42

<212> PRT

<213> Homo sapiens

<400> 172

Thr Ala Ser Pro Leu Leu Val Leu Phe Thr Ile Asn Cys Thr Ile Thr 1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr Gly Ser Arg Lys Phe 20 25 30

Asn Thr Met Glu Ser Val Leu Gln Gly Leu 35 40

<210> 173

<211> 42

<212> PRT

<213> Homo sapiens

<400> 173

Ala Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr 1 5 10 15

Asn Leu Gln Tyr Gly Glu Asp Met Gly His Pro Gly Ser Arg Lys Phe 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu 35 40

<210> 174

<211> 42

<212> PRT

<213> Homo sapiens

<400> 174

Thr Ala Gly Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr 1 5 10 15

Asn Leu Gln Tyr Gly Glu Asp Met Gly His Pro Gly Ser Arg Lys Phe 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu 35 40

<210> 175

<211> 42

<212> PRT

<213> Homo sapiens

Thr Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr 1 5 10 15

Asn Leu Gln Tyr Gly Glu Asp Met Gly His Pro Gly Ser Arg Lys Phe 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu 35 40

<210> 176

<211> 42

<212> PRT

<213> Homo sapiens

<400> 176

Thr Ala Gly Pro Leu Leu Val Leu Phe Thr Leu Asn Phe Thr Ile Thr 1 5 10 15

Asn Leu Lys Tyr Glu Glu Asp Met His Arg Pro Gly Ser Arg Lys Phe 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Thr Leu 35

<210> 177

<211> 42

<212> PRT

<213> Homo sapiens

<400> 177

Thr Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr 1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met His Arg Pro Gly Ser Arg Lys Phe 20 25 30

Asn Ala Thr Glu Arg Val Leu Gln Gly Leu 35

<210> 178

<211> 42

<212> PRT

<213> Homo sapiens

<400> 178

Thr Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr 1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met His Arg Pro Gly Ser Arg Arg Phe 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu 35 40

<210> 179

<211> 42

<212> PRT

<213> Homo sapiens

<400> 179

Thr Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr 1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met His Arg Pro Gly Ser Arg Lys Phe 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu 35

<210> 180

<211> 42

<212> PRT

<213> Homo sapiens

<400> 180

Ala Pro Val Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr 1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met His Arg Pro Gly Ser Arg Lys Phe 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu 35

<211> 42

<212> PRT

<213> Homo sapiens

<400> 181

Ala Thr Gly Pro Val Leu Leu Pro Phe Thr Leu Asn Phe Thr Ile Thr 1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met His Arg Pro Gly Ser Arg Lys Phe 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu
35 40

<210> 182

<211> 42

<212> PRT

<213> Homo sapiens

<400> 182

Ala Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr 1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met His His Pro Gly Ser Arg Lys Phe 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu 35 40

<210> 183

<211> 42

<212> PRT

<213> Homo sapiens

<400> 183

Ser Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr 1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met His His Pro Gly Ser Arg Lys Phe 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu

35 40 <210> 184 <211> 42 <212> PRT <213> Homo sapiens <400> 184 Thr Ala Ser Pro Leu Leu Val Leu Phe Thr Ile Asn Phe Thr Ile Thr Asn Gln Arg Tyr Glu Glu Asn Met His His Pro Gly Ser Arg Lys Phe 20 Asn Thr Thr Glu Arg Val Leu Gln Gly Leu <210> 185 <211> 42 <212> PRT <213> Homo sapiens <400> 185 Thr Ala Ser Pro Leu Leu Val Leu Phe Thr Ile Asn Phe Thr Ile Thr Asn Leu Arg Tyr Glu Glu Asn Met His His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu <210> 186 <211> 42 <212> PRT <213> Homo sapiens <400> 186 Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Phe Asn Phe Thr Ile Thr

10

Asn Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu 35 40

<210> 187

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<212> PRT

<213> Homo sapiens

<400> 187

Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Phe Asn Phe Thr Ile Thr 1 5 10 15

Asn Leu Arg Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu 35

<210> 188

<211> 42

<212> PRT

<213> Homo sapiens

<400> 188

Ala Pro Val Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr 1 5 10 15

Asn Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu 35 40

<210> 189

<211> 42

<212> PRT

<213> Homo sapiens

Ala Pro Val Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr 1 5 10 15

Asp Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu 35 40

<210> 190

<211> 42

<212> PRT

<213> Homo sapiens

<400> 190

Ala Ala Ser Pro Leu Leu Val Leu Phe Thr Leu Asn Gly Thr Ile Thr 1 $$ 10 $$ 15

Asn Leu Arg Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu 35 40

<210> 191

<211> 42

<212> PRT

<213> Homo sapiens

<400> 191

Thr Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr 1 5 10 15

Asn Leu Lys Tyr Glu Glu Asp Met His Cys Pro Gly Ser Arg Lys Phe 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Ser Leu 35 40

<210> 192

<211> 41

<212> PRT

<213> Homo sapiens

<400> 192

Ala Ala Ser His Leu Leu Ile Leu Phe Thr Leu Asn Phe Thr Ile Thr 1 5 10 15

Asn Leu Arg Tyr Glu Glu Asn Met Trp Pro Gly Ser Arg Lys Phe Asn 20 25 30

Thr Thr Glu Arg Val Leu Gln Gly Leu 35 40

<210> 193

<211> 42

<212> PRT

<213> Homo sapiens

<400> 193

Thr Gly Val Val Ser Glu Glu Pro Phe Thr Leu Asn Phe Thr Ile Asn 1 5 10 15

Asn Leu Arg Tyr Met Ala Asp Met Gly Gln Pro Gly Ser Leu Lys Phe 20 25 30

Asn Ile Thr Asp Asn Val Met Lys His Leu 35

<210> 194

<211> 42

<212> PRT

<213> Homo sapiens

<400> 194

Ala Met Gly Tyr His Leu Lys Thr Leu Thr Leu Asn Phe Thr Ile Ser 1 5 10 15

Asn Leu Gln Tyr Ser Pro Asp Met Gly Lys Gly Ser Ala Thr Phe Asn 20 25 30

Ser Thr Glu Gly Val Leu Gln His Leu Leu 35 40

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<211> 23
<212> PRT
<213> Homo sapiens
<400> 195
Leu Lys Pro Leu Phe Arg Asn Ser Ser Leu Glu Tyr Leu Tyr Ser Gly
                                  10
Cys Arg Leu Ala Ser Leu Arg
           20
<210> 196
<211> 23
<212> PRT
<213> Homo sapiens
<400> 196
Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu Tyr Ser Gly
Cys Arg Leu Thr Leu Leu Arg
           20
<210> 197
<211> 23
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<213> Homo sapiens
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Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly
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Cys Arg Leu Thr Leu Leu Arg
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<210> 198
<211> 23
<212> PRT
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<213> Homo sapiens
<400> 198
Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly
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Cys Arg Leu Thr Leu Leu Arg
          20
<210> 199
<211> 23
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<213> Homo sapiens
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Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Ser
Cys Arg Leu Thr Leu Leu Arg
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<211> 23
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<213> Homo sapiens
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Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly
Cys Arg Leu Thr Ser Leu Arg
           20
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<212> PRT
<213> Homo sapiens
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Leu Gly Pro Ile Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly
                                  10
Cys Arg Leu Thr Ser Leu Arg
       20
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<212> PRT
<213> Homo sapiens
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Leu Gly Pro Met Phe Lys Asn Thr Ser Val Gly Leu Leu Tyr Ser Gly
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Cys Arg Leu Thr Leu Leu Arg
          20
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<211> 23
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<213> Homo sapiens
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Leu Gly Pro Met Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly
               5
Cys Arg Leu Thr Leu Leu Arg
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<211> 23
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<213> Homo sapiens
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Leu Gly Pro Met Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly
               5
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Cys Arg Leu Thr Ser Leu Arg

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20
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<210> 205
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<211> 23

<212> PRT

<213> Homo sapiens

<400> 205

Leu Gly Pro Leu Phe Lys Asn Ser Ser Val Gly Pro Leu Tyr Ser Gly 1 5 10 15

Cys Arg Leu Ile Ser Leu Arg 20

<210> 206

<211> 23

<212> PRT

<213> Homo sapiens

<400> 206

Leu Gly Pro Leu Phe Lys Asn Ser Ser Val Asp Pro Leu Tyr Ser Gly
1 5 10 15

Cys Arg Leu Thr Ser Leu Arg 20

<210> 207

<211> 23

<212> PRT

<213> Homo sapiens

<400> 207

Leu Ser Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu Tyr Ser Gly 1 $$ 5 $$ 10 $$ 15

Cys Arg Leu Thr Ser Leu Arg 20

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<211> 23
<212> PRT
<213> Homo sapiens
<400> 208
Leu Ser Pro Ile Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly
Cys Arg Leu Thr Leu Leu Arg
           20
<210> 209
<211> 23
<212> PRT
<213> Homo sapiens
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Leu Ser Pro Leu Phe Gln Arg Ser Ser Leu Gly Ala Arg Tyr Thr Gly
Cys Arg Val Ile Ala Leu Arg
            20
<210> 210
<211> 23
<212> PRT
<213> Homo sapiens
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Leu Arg Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu Tyr Ser Gly
Cys Arg Leu Thr Leu Leu Arg
            20
<210> 211
<211> 23
<212> PRT
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The first term than the way will be the first term to the will be the first term to the will be the term to the te
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<213> Homo sapiens
<400> 211
Leu Arg Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly
                                  10
Ser Arg Leu Thr Leu Leu Arg
           20
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<211> 23
<212> PRT
<213> Homo sapiens
<400> 212
Leu Arg Pro Leu Phe Lys Asn Thr Ser Ile Gly Pro Leu Tyr Ser Ser
Cys Arg Leu Thr Leu Leu Arg
           20
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<211> 23
<212> PRT
<213> Homo sapiens
<400> 213
Leu Arg Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly
Cys Arg Leu Thr Leu Leu Arg
            20
<210> 214
<211> 23
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Leu Arg Pro Val Phe Lys Asn Thr Ser Val Gly Leu Leu Tyr Ser Gly
                                  10
Cys Arg Leu Thr Leu Leu Arg
<210> 215
<211> 23
<212> PRT
<213> Homo sapiens
<400> 215
Leu Arg Pro Val Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly
        5
                                  10
Cys Arg Leu Thr Leu Leu Arg
<210> 216
<211> 23
<212> PRT
<213> Homo sapiens
<400> 216
Leu Arg Ser Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly
                5
Cys Arg Leu Thr Leu Leu Arg
            20
<210> 217
<211> 23
<212> PRT
<213> Homo sapiens
<400> 217
Leu Arg Ser Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly
                               10
                5
```

Cys Arg Leu Thr Ser Leu Arg

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20
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<210> 218

<211> 23

<212> PRT

<213> Homo sapiens

<400> 218

Leu Thr Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly $1 \hspace{1.5cm} 5 \hspace{1.5cm} 10 \hspace{1.5cm} 15$

Cys Arg Leu Thr Leu Leu Arg 20

<210> 219

<211> 23

<212> PRT

<213> Homo sapiens

<400> 219

Leu Thr Pro Leu Phe Arg Asn Thr Ser Val Ser Ser Leu Tyr Ser Gly 1 5 10 15

Cys Arg Leu Thr Leu Leu Arg 20

<210> 220

<211> 23

<212> PRT

<213> Homo sapiens

<400> 220

Leu Met Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu Tyr Ser Gly 1 5 10

Cys Arg Leu Thr Leu Leu Arg 20

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<211> 22
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<212> PRT

<213> Homo sapiens

<400> 221

Arg Pro Leu Phe Gln Lys Ser Ser Met Gly Pro Phe Tyr Leu Gly Cys
1 10 15

Gln Leu Ile Ser Leu Arg 20

<210> 222

<211> 58

<212> PRT

<213> Homo sapiens

<400> 222

Pro Glu Lys Asp Ser Ser Ala Met Ala Val Asp Ala Ile Cys Thr His 1 5 10 15

Arg Pro Asp Pro Glu Asp Leu Gly Leu Asp Arg Glu Arg Leu Tyr Trp 20 25 30

Glu Leu Ser Asn Leu Thr Asn Gly Ile Gln Glu Leu Gly Pro Tyr Thr 35 40 45

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly 50 55

<210> 223

<211> 58

<212> PRT

<213> Homo sapiens

<400> 223

Pro Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His 1 5 10 15

Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp 20 25 30

Glu Leu Ser Lys Leu Thr Asn Asp Ile Glu Glu Leu Gly Pro Tyr Thr

35 40 45

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly 50

<210> 224

<211> 58

<212> PRT

<213> Homo sapiens

<400> 224

Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp 20 25 30

Glu Leu Ser Lys Leu Thr Asn Asp Ile Glu Glu Leu Gly Pro Tyr Thr 35 40 45

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly 50

<210> 225

<211> 58

<212> PRT

<213> Homo sapiens

<400> 225

Pro Glu Lys Asp Gly Thr Ala Thr Gly Val Asp Ala Ile Cys Thr His 1 5 10 15

His Pro Asp Pro Lys Ser Pro Arg Leu Asp Arg Glu Gln Leu Tyr Trp 20 25 30

Glu Leu Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly His Tyr Ala 35 40 45

Leu Asp Asn Asp Ser Leu Phe Val Asn Gly 50

<210> 226

<211> 58

<212> PRT

<213> Homo sapiens

<400> 226

Arg Pro Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu Gln Leu Tyr Leu 20 25 30

Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr 35 40 45

Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly 50

<210> 227

<211> 58

<212> PRT

<213> Homo sapiens

<400> 227

Pro Glu Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr 1 5 10 15

His Pro Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp 20 25 30

Glu Leu Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ser 35 40 45

Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly 50

<210> 228

<211> 58

<212> PRT

<213> Homo sapiens

<400> 228

Pro Glu Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr 1 5 10 15

His Pro Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Cys 20 25 30

Glu Leu Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ser 35 40 45

Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly 50 55

<210> 229

<211> 58

<212> PRT

<213> Homo sapiens

<400> 229

Pro Glu Lys Asp Gly Ala Ala Thr Arg Val Asp Ala Ala Cys Thr Tyr 1 5 10 15

Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp
20 25 30

Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr 35 40 45

Leu Asp Arg Val Ser Leu Tyr Val Asn Gly 50

<210> 230

<211> 58

<212> PRT

<213> Homo sapiens

<400> 230

Pro Lys Lys Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr 1 5 10 15

Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp
20 25 30

Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr 35 40 45

Gln Asp Arg Asp Ser Leu Tyr Val Asn Gly 50 55

<210> 231

<211> 58

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<212> PRT
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<213> Homo sapiens

<400> 231

Pro Lys Lys Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr 1 5 10 15

Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp 20 25 30

Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr 35 40 45

Gln Asp Arg Asp Ser Leu Tyr Asn Val Gly 50

<210> 232

<211> 58

<212> PRT

<213> Homo sapiens

<400> 232

Pro Glu Lys Asp Gly Ala Ala Thr Arg Val Asp Ala Val Cys Thr His 1 5 10 15

Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp 20 25 30

Lys Leu Ser Gln Leu Thr His Gly Ile Thr Glu Leu Gly Pro Tyr Thr 35 40 45

Leu Asp Arg His Ser Leu Tyr Val Asn Gly

<210> 233

<211> 58

<212> PRT

<213> Homo sapiens

<400> 233

Pro Glu Lys Asp Gly Val Ala Thr Arg Val Asp Ala Ile Cys Thr His 1 5 10 15

Arg Pro Asp Pro Lys Ile Pro Gly Leu Asp Arg Gln Gln Leu Tyr Trp 20 25 30

Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr 35 40 45

Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly 50 55

<210> 234

<211> 58

<212> PRT

<213> Homo sapiens

<400> 234

Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Ile His 1 5 10 15

His Leu Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu Arg Leu Tyr Trp 20 25 30

Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr 35 40 45

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly 50

<210> 235

<211> 58

<212> PRT

<213> Homo sapiens

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Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His 1 5 10 15

Arg Leu Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp 20 25 30

Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr 35 40 45

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly 50

<210> 236

<400> 238

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Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His
Arg Leu Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln Leu Tyr Trp
Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr
                           40
Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly
<210> 237
<211> 58
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<213> Homo sapiens
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Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His
Arg Val Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln Leu Tyr Trp
            20
Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr
Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly
    50
<210> 238
<211> 58
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Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His

5 10 15 His Leu Asn Pro Gln Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp 25 Gln Leu Ser Gln Met Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr 40 Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly <210> 239 <211> 58 <212> PRT <213> Homo sapiens <400> 239 Pro Glu Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp Arg Gly Ser Leu Tyr Val Asn Gly <210> 240 <211> 58 <212> PRT <213> Homo sapiens <400> 240 Pro Glu Lys Asn Gly Ala Ala Thr Gly Met Asp Ala Ile Cys Ser His 5 Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His Gly Ile Lys Glu Leu Gly Pro Tyr Thr 40

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly

50

55

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<210> 241
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<211> 58

<212> PRT

<213> Homo sapiens

<400> 241

Pro Glu Lys Asn Gly Ala Ala Thr Gly Met Asp Ala Ile Cys Ser His 1 10 15

Arg Leu Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp 20 25 30

Glu Leu Ser Gln Leu Thr His Gly Ile Lys Glu Leu Gly Pro Tyr Thr 35 40 45

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly 50

<210> 242

<211> 58

<212> PRT

<213> Homo sapiens

<400> 242

Pro Glu Lys His Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr Leu 1 5 10 15

Arg Leu Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp
20 25 30

Glu Leu Ser Gln Leu Thr Asn Ser Val Thr Glu Leu Gly Pro Tyr Thr 35 40 45

Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly 50

<210> 243

<211> 58

<212> PRT

<213> Homo sapiens

<400> 243

Pro Glu Lys His Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr Leu 1 5 10 15

Arg Leu Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp 20 25 30

Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr 35 40 45

Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly 50

<210> 244

<211> 58

<212> PRT

<213> Homo sapiens

<400> 244

Pro Glu Lys His Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His 1 5 10 15

Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp \$20\$ \$25\$ 30

Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr 35 40 45

Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly 50

<210> 245

<211> 58

<212> PRT

<213> Homo sapiens

<400> 245

Pro Glu Lys Gln Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His 1 5 10 15

Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp 20 25 30

Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr
35 40 45

Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly

50 55

<210> 246

<211> 58

<212> PRT

<213> Homo sapiens

<400> 246

Pro Glu Lys Gln Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His 1 5 10 15

Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp 20 25 30

Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr 35 40 45

Leu Asp Arg Asp Ser Leu Tyr Val Asp Gly 50 55

<210> 247

<211> 58

<212> PRT

<213> Homo sapiens

<400> 247

Pro Glu Lys Asp Lys Ala Ala Thr Arg Val Asp Ala Ile Cys Thr His 1 5 10 15

His Pro Asp Pro Gln Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp $20 \\ 25 \\ 30$

Glu Leu Ser Gln Leu Thr His Gly Ile Thr Glu Leu Gly Pro Tyr Thr 35 40 45

Leu Asp Arg Asp Ser Leu Tyr Val Asp Gly 50

<210> 248

<211> 58

<212> PRT

<213> Homo sapiens

<400> 248

Ser Val Lys Asn Gly Ala Glu Thr Arg Val Asp Leu Leu Cys Thr Tyr $1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15$

Leu Gln Pro Leu Ser Gly Pro Gly Leu Pro Ile Lys Gln Val Phe His 20 25 30

Glu Leu Ser Gln Gln Thr His Gly Ile Thr Arg Leu Gly Pro Tyr Ser 35 40 45

Leu Asp Lys Asp Ser Leu Tyr Leu Asn Gly

<210> 249

<211> 58

<212> PRT

<213> Homo sapiens

<400> 249

Pro Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Thr Thr Cys Thr Tyr 1 5 10 15

His Pro Asp Pro Val Gly Pro Gly Leu Asp Ile Gln Gln Leu Tyr Trp 20 25 30

Glu Leu Ser Gln Leu Thr His Gly Val Thr Gln Leu Gly Phe Tyr Val 35 40 45

Leu Asp Arg Asp Ser Leu Phe Ile Asn Gly 50

<210> 250

<211> 12

<212> PRT

<213> Homo sapiens

<400> 250

Phe Thr His Arg Ser Ser Met Pro Thr Thr Ser Thr 1 10

<210> 251

<211> 12

<210> 255

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<212> PRT
<213> Homo sapiens
<400> 251
Phe Thr His Arg Ser Ser Met Pro Thr Thr Ser Ile
<210> 252
<211> 12
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Phe Thr His Arg Thr Ser Val Pro Thr Ser Ser Thr
                                 10
               5
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Phe Thr His Arg Thr Ser Val Pro Thr Thr Ser Thr
<210> 254
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<400> 254
Phe Thr His Arg Ser Ser Val Pro Thr Thr Ser Ser
              5
                               10
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<400> 255
Phe Thr His Arg Ser Ser Val Ser Thr Thr Ser Thr
<210> 256
<211> 12
<212> PRT
<213> Homo sapiens
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Phe Thr His Arg Ser Ser Val Ala Pro Thr Ser Thr
               5
<210> 257
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<213> Homo sapiens
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Phe Thr His Arg Ser Ser Gly Leu Thr Thr Ser Thr
<210> 258
<211> 12
<212> PRT
<213> Homo sapiens
<400> 258
Phe Thr His Arg Ser Phe Gly Leu Thr Thr Ser Thr
                5
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<400> 259
Phe Thr His Arg Ser Ser Phe Leu Thr Thr Ser Thr
<210> 260
<211> 12
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<213> Homo sapiens
<400> 260
Phe Thr His Arg Asn Phe Val Pro Ile Thr Ser Thr
               5
                                  10
<210> 261
<211> 12
<212> PRT
<213> Homo sapiens
<400> 261
Phe Thr His Arg Ser Ser Val Pro Thr Thr Ser Ile
<210> 262
<211> 12
<212> PRT
<213> Homo sapiens
<400> 262
Phe Thr His Gln Ser Ser Val Ser Thr Thr Ser Thr
              5
                                10
```

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<210> 263
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<213> Homo sapiens
<400> 263
Phe Thr His Gln Thr Ser Ala Pro Asn Thr Ser Thr
<210> 264
<211> 12
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<213> Homo sapiens
<400> 264
Phe Thr His Gln Thr Phe Ala Pro Asn Thr Ser Thr
               5
<210> 265
<211> 12
<212> PRT
<213> Homo sapiens
<400> 265
Phe Thr His Gln Asn Ser Val Pro Thr Thr Ser Thr
                                   10
                5
<210> 266
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<400> 266
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Phe Thr His Gln Ser Ser Met Thr Thr Thr Arg Thr

1 5 10 <210> 267 <211> 12 <212> PRT <213> Homo sapiens <400> 267 Phe Thr His Trp Ile Pro Val Pro Thr Ser Ser Thr <210> 268 <211> 12 <212> PRT <213> Homo sapiens <400> 268 Phe Thr His Trp Ser Pro Ile Pro Thr Thr Ser Thr 5 10 <210> 269 <211> 12 <212> PRT <213> Homo sapiens <400> 269 Phe Thr His Trp Ser Ser Gly Leu Thr Thr Ser Thr <210> 270 <211> 12 <212> PRT <213> Homo sapiens <400> 270

<400> 274

Phe His Pro Arg Ser Ser Val Pro Thr Thr Ser Thr 1 5 <210> 271 <211> 12 <212> PRT <213> Homo sapiens <400> 271 Phe Asn Pro Arg Ser Ser Val Pro Thr Thr Ser Thr 5 <210> 272 <211> 12 <212> PRT <213> Homo sapiens <400> 272 Phe Asn Pro Trp Ser Ser Val Pro Thr Thr Ser Thr 5 <210> 273 <211> 12 <212> PRT <213> Homo sapiens <400> 273 Phe Thr Gln Arg Ser Ser Val Pro Thr Thr Ser Ile 5 <210> 274 <211> 12 <212> PRT <213> Homo sapiens

Phe Thr Gln Arg Ser Ser Val Pro Thr Thr Ser Thr <210> 275 <211> 12 <212> PRT <213> Homo sapiens <400> 275 Phe Thr Gln Arg Ser Ser Val Pro Thr Thr Ser Val <210> 276 <211> 12 <212> PRT <213> Homo sapiens <400> 276 Tyr Asn Glu Pro Gly Leu Asp Glu Pro Pro Thr Thr 5 <210> 277 <211> 12 <212> PRT <213> Homo sapiens <400> 277 Tyr Ala Pro Gln Asn Leu Ser Ile Arg Gly Glu Tyr <210> 278 <211> 21 <212> PRT <213> Homo sapiens

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Pro Gly Thr Ser Thr Val Asp Val Gly Thr Ser Gly Thr Pro Ser Ser
Ser Pro Ser Pro Thr
<210> 279
<211> 23
<212> PRT
<213> Homo sapiens
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Pro Gly Thr Ser Thr Val Asp Leu Arg Thr Ser Gly Thr Pro Ser Ser
                                   10
Leu Ser Ser Pro Thr Ile Met
           20
<210> 280
<211> 21
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Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Phe Ser
Leu Pro Ser Pro Ala
            20
<210> 281
<211> 20
<212> PRT
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<400> 281
Pro Gly Thr Ser Thr Val Asp Leu Gly Ser Gly Thr Pro Ser Ser Leu
                5
                                   10
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Pro Ser Pro Thr
<210> 282
<211> 20
<212> PRT
<213> Homo sapiens
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Pro Gly Thr Ser Thr Val Asp Leu Gly Ser Gly Thr Pro Ser Leu Pro
Ser Ser Pro Thr
        20
<210> 283
<211> 21
<212> PRT
<213> Homo sapiens
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Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Ser
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               5
Leu Pro Ser Pro Thr
           20
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<213> Homo sapiens
<400> 284
Pro Gly Thr Pro Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Val Ser
               5
                                   10
Lys Pro Gly Pro Ser
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Pro Trp Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Pro
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Val Pro Ser Pro Thr
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<213> Homo sapiens
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Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly Thr Pro Ser Ser
                                  10
Phe Pro Gly His Thr
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<213> Homo sapiens
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Pro Gly Thr Ser Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Ser
Leu Pro Gly His Thr
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Pro Gly Thr Ser Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Pro
Leu Pro Gly His Thr
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<213> Homo sapiens
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Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser Arg Thr Pro Ala Ser
Leu Ser Gly Pro Thr
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<211> 21
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<400> 290
Pro Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly Thr Pro Ala Ser
Leu Pro Gly His Thr
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<400> 291

<212> PRT

<213> Homo sapiens

Leu Pro Gly Pro Thr

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Pro Gly Thr Ser Ala Val His Leu Glu Thr Thr Gly Thr Pro Ser Ser
Phe Pro Gly His Thr
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Pro Gly Thr Ser Thr Val His Leu Gly Thr Ser Glu Thr Pro Ser Ser
                                  10
Leu Pro Arg Pro Ile
           20
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<211> 21
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Pro Gly Thr Ser Ile Val Asn Leu Gly Thr Ser Gly Ile Pro Pro Ser
Leu Pro Glu Thr Thr
           20
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Pro Gly Thr Phe Thr Val Gln Pro Glu Thr Ser Glu Thr Pro Ser Ser
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                5
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20
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<211> 21

<212> PRT

<213> Homo sapiens

<400> 295

Pro Gly Thr Pro Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Val Ser 1 $$ 5 $$ 10 $$ 15

Lys Pro Gly Pro Ser 20

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<211> 21

<212> PRT

<213> Homo sapiens

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Pro Gly Thr Pro Thr Val Tyr Leu Gly Ala Ser Lys Thr Pro Ala Ser 1 5 10 15

Ile Phe Gly Pro Ser 20

<210> 297

<211> 16

<212> PRT

<213> Homo sapiens

<400> 297

Pro Lys Pro Ala Thr Thr Phe Leu Pro Pro Leu Ser Glu Ala Thr Thr 1 5 10 15

<210> 298

<211> 21

<212> PRT

<213> Homo sapiens

<400> 298

Gln Ile Asn Phe His Ile Val Asn Trp Asn Leu Ser Asn Pro Asp Pro 1 5 10 15

Thr Ser Ser Glu Tyr

<210> 299

<211> 1794

<212> PRT

<213> Homo sapiens

<400> 299

Met Glu His Ile Thr Lys Ile Pro Asn Glu Ala Ala His Arg Gly Thr 1 5 10 15

Ile Arg Pro Val Lys Gly Pro Gln Thr Ser Thr Ser Pro Ala Ser Pro 20 25 30

Lys Gly Leu His Thr Gly Gly Thr Lys Arg Met Glu Thr Thr Thr 35 40 45

Ala Leu Lys Thr Thr Thr Ala Leu Lys Thr Thr Ser Arg Ala Thr 50 55 60

Leu Thr Thr Ser Val Tyr Thr Pro Thr Leu Gly Thr Leu Thr Pro Leu 65 70 75 80

Asn Ala Ser Arg Gln Met Ala Ser Thr Ile Leu Thr Glu Met Met Ile 85 90 95

Thr Thr Pro Tyr Val Phe Pro Asp Val Pro Glu Thr Thr Ser Ser Leu 100 105 110

Ala Thr Ser Leu Gly Ala Glu Thr Ser Thr Ala Leu Pro Arg Thr Thr 115 120 125

Pro Ser Val Leu Asn Arg Glu Ser Glu Thr Thr Ala Ser Leu Val Ser 130 135 140

Arg Ser Gly Ala Glu Arg Ser Pro Val Ile Gln Thr Leu Asp Val Ser 145 150 155 160

Ser Ser Glu Pro Asp Thr Thr Ala Ser Trp Val Ile His Pro Ala Glu 165 170 175

Thr Ile Pro Thr Val Ser Lys Thr Thr Pro Asn Phe Phe His Ser Glu 180 185 190

Leu Asp Thr Val Ser Ser Thr Ala Thr Ser His Gly Ala Asp Val Ser 200 195 Ser Ala Ile Pro Thr Asn Ile Ser Pro Ser Glu Leu Asp Ala Leu Thr 215 Pro Leu Val Thr Ile Ser Gly Thr Asp Thr Ser Thr Thr Phe Pro Thr 235 230 Leu Thr Lys Ser Pro His Glu Thr Glu Thr Arg Thr Thr Trp Leu Thr 250 245 His Pro Ala Glu Thr Ser Ser Thr Ile Pro Arg Thr Ile Pro Asn Phe 265 Ser His His Glu Ser Asp Ala Thr Pro Ser Ile Ala Thr Ser Pro Gly 280 Ala Glu Thr Ser Ser Ala Ile Pro Ile Met Thr Val Ser Pro Gly Ala 295 Glu Asp Leu Val Thr Ser Gln Val Thr Ser Ser Gly Thr Asp Arg Asn 310 315 Met Thr Ile Pro Thr Leu Thr Leu Ser Pro Gly Glu Pro Lys Thr Ile Ala Ser Leu Val Thr His Pro Glu Ala Gln Thr Ser Ser Ala Ile Pro 345 Thr Ser Thr Ile Ser Pro Ala Val Ser Arg Leu Val Thr Ser Met Val 355 Thr Ser Leu Ala Ala Lys Thr Ser Thr Thr Asn Arg Ala Leu Thr Asn Ser Pro Gly Glu Pro Ala Thr Thr Val Ser Leu Val Thr His Pro Ala 390 395 385 Gln Thr Ser Pro Thr Val Pro Trp Thr Thr Ser Ile Phe Phe His Ser Lys Ser Asp Thr Thr Pro Ser Met Thr Thr Ser His Gly Ala Glu Ser 425 420 Ser Ser Ala Val Pro Thr Pro Thr Val Ser Thr Glu Val Pro Gly Val 435 440 Val Thr Pro Leu Val Thr Ser Ser Arg Ala Val Ile Ser Thr Thr Ile 460 450 455 Pro Ile Leu Thr Leu Ser Pro Gly Glu Pro Glu Thr Thr Pro Ser Met 475 Ala Thr Ser His Gly Glu Glu Ala Ser Ser Ala Ile Pro Thr Pro Thr 490

Val Ser Pro Gly Val Pro Gly Val Val Thr Ser Leu Val Thr Ser Ser

505 500 510 Arg Ala Val Thr Ser Thr Thr Ile Pro Ile Leu Thr Phe Ser Leu Gly 520 Glu Pro Glu Thr Thr Pro Ser Met Ala Thr Ser His Gly Thr Glu Ala 540 535 Gly Ser Ala Val Pro Thr Val Leu Pro Glu Val Pro Gly Met Val Thr 555 550 Ser Leu Val Ala Ser Ser Arg Ala Val Thr Ser Thr Thr Leu Pro Thr 570 565 Leu Thr Leu Ser Pro Gly Glu Pro Glu Thr Thr Pro Ser Met Ala Thr 585 Ser His Gly Ala Glu Ala Ser Ser Thr Val Pro Thr Val Ser Pro Glu Val Pro Gly Val Val Thr Ser Leu Val Thr Ser Ser Ser Gly Val Asn 615 Ser Thr Ser Ile Pro Thr Leu Ile Leu Ser Pro Gly Glu Leu Glu Thr 635 Thr Pro Ser Met Ala Thr Ser His Gly Ala Glu Ala Ser Ser Ala Val 650 Pro Thr Pro Thr Val Ser Pro Gly Val Ser Gly Val Val Thr Pro Leu Val Thr Ser Ser Arg Ala Val Thr Ser Thr Thr Ile Pro Ile Leu Thr 680 Leu Ser Ser Ser Glu Pro Glu Thr Thr Pro Ser Met Ala Thr Ser His Gly Val Glu Ala Ser Ser Ala Val Leu Thr Val Ser Pro Glu Val Pro Gly Met Val Thr Ser Leu Val Thr Ser Ser Arg Ala Val Thr Ser Thr 725 Thr Ile Pro Thr Leu Thr Ile Ser Ser Asp Glu Pro Glu Thr Thr 745 Ser Leu Val Thr His Ser Glu Ala Lys Met Ile Ser Ala Ile Pro Thr 760 755 Leu Ala Val Ser Pro Thr Val Gln Gly Leu Val Thr Ser Leu Val Thr 775 Ser Ser Gly Ser Glu Thr Ser Ala Phe Ser Asn Leu Thr Val Ala Ser 795 790 Ser Gln Pro Glu Thr Ile Asp Ser Trp Val Ala His Pro Gly Thr Glu 810 815 805

- Ala Ser Ser Val Val Pro Thr Leu Thr Val Ser Thr Gly Glu Pro Phe 820 825 830
- Thr Asn Ile Ser Leu Val Thr His Pro Ala Glu Ser Ser Ser Thr Leu 835 840 845
- Pro Arg Thr Thr Ser Arg Phe Ser His Ser Glu Leu Asp Thr Met Pro 850 855 860
- Ser Thr Val Thr Ser Pro Glu Ala Glu Ser Ser Ser Ala Ile Ser Thr 865 870 880
- Thr Ile Ser Pro Gly Ile Pro Gly Val Leu Thr Ser Leu Val Thr Ser 885 890 895
- Ser Gly Arg Asp Ile Ser Ala Thr Phe Pro Thr Val Pro Glu Ser Pro 900 905 910
- His Glu Ser Glu Ala Thr Ala Ser Trp Val Thr His Pro Ala Val Thr 915 920 925
- Ser Thr Thr Val Pro Arg Thr Thr Pro Asn Tyr Ser His Ser Glu Pro 930 935 940
- Asp Thr Thr Pro Ser Ile Ala Thr Ser Pro Gly Ala Glu Ala Thr Ser 945 950 955 960
- Asp Phe Pro Thr Ile Thr Val Ser Pro Asp Val Pro Asp Met Val Thr 965 970 975
- Ser Gln Val Thr Ser Ser Gly Thr Asp Thr Ser Ile Thr Ile Pro Thr 980 985 990
- Leu Thr Leu Ser Ser Gly Glu Pro Glu Thr Thr Thr Ser Phe Ile Thr 995 1000 1005
- Tyr Ser Glu Thr His Thr Ser Ser Ala Ile Pro Thr Leu Pro Val 1010 1015 1020
- Ser Pro Gly Ala Ser Lys Met Leu Thr Ser Leu Val Ile Ser Ser 1025 1030 1035
- Gly Thr Asp Ser Thr Thr Thr Phe Pro Thr Leu Thr Glu Thr Pro $1040 \hspace{1cm} 1045 \hspace{1cm} 1050 \hspace{1cm}$
- Tyr Glu Pro Glu Thr Thr Ala Ile Gln Leu Ile His Pro Ala Glu 1055 1060 1065
- Thr Asn Thr Met Val Pro Arg Thr Thr Pro Lys Phe Ser His Ser 1070 1075 1080
- Lys Ser Asp Thr Thr Leu Pro Val Ala Ile Thr Ser Pro Gly Pro 1085 1090 1095
- Ser Asp Leu Val Thr Ser Leu Val Pro Ser Ser Gly Thr Asp Thr 1115 1120 1125

Ser	Thr 1130	Thr	Phe	Pro	Thr	Leu 1135	Ser	Glu	Thr	Pro	Tyr 1140	Glu	Pro	Glu
Thr	Thr 1145	Ala	Thr	Trp	Leu	Thr 1150	His	Pro	Ala	Glu	Thr 1155	Ser	Thr	Thr
Val	Ser 1160	Gly	Thr	Ile	Pro	Asn 1165	Phe	Ser	His	Arg	Gly 1170	Ser	Asp	Thr
Ala	Pro 1175	Ser	Met	Val	Thr	Ser 1180	Pro	Gly	Val	Asp	Thr 1185	Arg	Ser	Gly
Val	Pro 1190	Thr	Thr	Thr	Ile	Pro 1195	Pro	Ser	Ile	Pro	Gly 1200	Val	Val	Thr
Ser	Gln 1205	Val	Thr	Ser		Ala 1210	Thr	Asp	Thr	Ser	Thr 1215	Ala	Ile	Pro
Thr	Leu 1220	Thr	Pro	Ser	Pro	Gly 1225	Glu	Pro	Glu	Thr	Thr 1230	Ala	Ser	Ser
Ala	Thr 1235	His	Pro	Gly	Thr	Gln 1240	Thr	Gly	Phe	Thr	Val 1245	Pro	Ile	Arg
Thr	Val 1250	Pro	Ser	Ser	Glu	Pro 1255		Thr	Met	Ala	Ser 1260	Trp	Val	Thr
His	Pro 1265	Pro	Gln	Thr	Ser	Thr 1270		Val	Ser	Arg	Thr 1275	Thr	Ser	Ser
Phe	Ser 1280	His	Ser	Ser	Pro	Asp 1285		Thr	Pro	Val	Met 1290	Ala	Thr	Ser
Pro	Arg 1295		Glu	Ala	Ser	Ser 1300		Val	Leu	Thr	Thr 1305	Ile	Ser	Pro
Gly	Ala 1310	Pro	Glu	Met	Val	Thr 1315	Ser	Gln	Ile	Thr	Ser 1320	Ser	Gly	Ala
Ala	Thr 1325	Ser	Thr	Thr	Val	Pro 1330		Leu	Thr	His	Ser 1335	Pro	Gly	Met
Pro	Glu 1340		Thr	Ala	Leu	Leu 1345		Thr	His	Pro	Arg 1350		Glu	Thr
Ser	Lys 1355		Phe	Pro	Ala	Ser 1360		Val	Phe	Pro	Gln 1365		Ser	Glu
Thr	Thr 1370		Ser	Leu	Thr	Ile 1375		Pro	Gly	Ala	Glu 1380		Ser	Thr
Ala	Leu 1385		Thr	Gln	Thr	Thr 1390		Ser	Leu	Phe	Thr 1395		Leu	Val
Thr	Gly 1400		Ser	Arg	Val	Asp 1405		Ser	Pro	Thr	Ala 1410	Ser	Pro	Gly
Val	Ser	Ala	Lys	Thr	Ala	Pro	Leu	Ser	Thr	His	Pro	Gly	Thr	Glu

	1415					1420					1425			
Thr	Ser 1430	Thr	Met	Ile	Pro	Thr 1435	Ser	Thr	Leu	Ser	Leu 1440	Gly	Leu	Leu
Glu	Thr 1445	Thr	Gly	Leu	Leu	Ala 1450	Thr	Ser	Ser	Ser	Ala 1455	Glu	Thr	Ser
Thr	Ser 1460	Thr	Leu	Thr	Leu	Thr 1465	Val	Ser	Pro	Ala	Val 1470	Ser	Gly	Leu
Ser	Ser 1475	Ala	Ser	Ile	Thr	Thr 1480		Lys	Pro	Gln	Thr 1485	Val	Thr	Ser
Trp	Asn 1490	Thr	Glu	Thr	Ser	Pro 1495	Ser	Val	Thr	Ser	Val 1500	Gly	Pro	Pro
Glu	Phe 1505	Ser	Arg	Thr	Val	Thr 1510	Gly	Thr	Thr	Met	Thr 1515	Leu	Ile	Pro
Ser	Glu 1520	Met	Pro	Thr	Pro	Pro 1525	_	Thr	Ser	His	Gly 1530	Glu	Gly	Val
Ser	Pro 1535	Thr	Thr	Ile	Leu	Arg 1540	Thr	Thr	Met	Val	Glu 1545	Ala	Thr	Asn
Leu	Ala 1550	Thr	Thr	Gly	Ser	Ser 1555	Pro	Thr	Val	Ala	Lys 1560	Thr	Thr	Thr
Thr	Phe 1565	Asn	Thr	Leu	Ala	Gly 1570		Leu	Phe	Thr	Pro 1575	Leu	Thr	Thr
Pro	Gly 1580	Met	Ser	Thr	Leu	Ala 1585	Ser	Glu	Ser	Val	Thr 1590	Ser	Arg	Thr
Ser	Tyr 1595	Asn	His	Arg	Ser	Trp 1600	Ile	Ser	Thr	Thr	Ser 1605	Ser	Tyr	Asn
Arg	Arg 1610	Tyr	Trp	Thr	Pro	Ala 1615	Thr	Ser	Thr	Pro	Val 1620	Thr	Ser	Thr
Phe	Ser 1625	Pro	Gly	Ile	Ser	Thr 1630	Ser	Ser	Ile	Pro	Ser 1635	Ser	Thr	Ala
Ala	Thr 1640	Val	Pro	Phe	Met	Val 1645	Pro	Phe	Thr	Leu	Asn 1650	Phe	Thr	Ile
Thr	Asn 1655	Leu	Gln	Tyr	Glu	Glu 1660	Asp	Met	Arg	His	Pro 1665	Gly	Ser	Arg
Lys	Phe 1670	Asn	Ala	Thr	Glu	Arg 1675	Glu	Leu	Gln	Gly	Leu 1680	Leu	Lys	Pro
Leu	Phe 1685	Arg	Asn	Ser	Ser	Leu 1690	Glu	Tyr	Leu	Tyr	Ser 1695	Gly	Cys	Arg
Leu	Ala 1700	Ser	Leu	Arg	Pro	Glu 1705	Lys	Asp	Ser	Ser	Ala 1710	Met	Ala	Val

- Asp Ala Ile Cys Thr His Arg Pro Asp Pro Glu Asp Leu Gly Leu 1715 1720 1725
- Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Asn Leu Thr Asn Gly 1730 1740
- Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr 1745 1750 1755
- Val Asn Gly Phe Thr His Arg Ser Ser Met Pro Thr Thr Ser Thr 1760 1765 1770
- Pro Gly Thr Ser Thr Val Asp Val Gly Thr Ser Gly Thr Pro Ser 1775 1780 1785
- Ser Ser Pro Ser Pro Thr 1790
- <210> 300
- <211> 284
- <212> PRT
- <213> Homo sapiens
- <400> 300
- Ile Thr Leu Leu Arg Asp Ile Gln Asp Lys Val Thr Thr Leu Tyr Lys 1 5 10 15
- Gly Ser Gln Leu His Asp Thr Phe Arg Phe Cys Leu Val Thr Asn Leu 20 25 30
- Thr Met Asp Ser Val Leu Val Thr Val Lys Ala Leu Phe Ser Ser Asn 35 40 45
- Leu Asp Pro Ser Leu Val Glu Gln Val Phe Leu Asp Lys Thr Leu Asn 50 55 60
- Ala Ser Phe His Trp Leu Gly Ser Thr Tyr Gln Leu Val Asp Ile His 65 70 75 80
- Thr Gln His Phe Tyr Leu Asn Phe Thr Ile Thr Asn Leu Pro Tyr Ser 100 105 110
- Gln Asp Lys Ala Gln Pro Gly Thr Thr Asn Tyr Gln Arg Asn Lys Arg 115 120 125
- Asn Ile Glu Asp Ala Leu Asn Gln Leu Phe Arg Asn Ser Ser Ile Lys 130 135 140
- Ser Tyr Phe Ser Asp Cys Gln Val Ser Thr Phe Arg Ser Val Pro Asn 145 150 155 160

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Arg His His Thr Gly Val Asp Ser Leu Cys Asn Phe Ser Pro Leu Ala 165 170 175
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Arg Arg Val Asp Arg Val Ala Ile Tyr Glu Glu Phe Leu Arg Met Thr $180 \hspace{1.5cm} 185 \hspace{1.5cm} 190 \hspace{1.5cm}$

Arg Asn Gly Thr Gln Leu Gln Asn Phe Thr Leu Asp Arg Ser Ser Val 195 200 205

Leu Val Asp Gly Tyr Ser Pro Asn Arg Asn Glu Pro Leu Thr Gly Asn 210 215 220

Ser Asp Leu Pro Phe Trp Ala Val Ile Leu Ile Gly Leu Ala Gly Leu 225 230 235 240

Leu Gly Leu Ile Thr Cys Leu Ile Cys Gly Val Leu Val Thr Thr Arg 245 250 255

Arg Arg Lys Lys Glu Gly Glu Tyr Asn Val Gln Gln Gln Cys Pro Gly 260 265 270

Tyr Tyr Gln Ser His Leu Asp Leu Glu Asp Leu Gln 275 280

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<223> Synthetic primer

<400> 301

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